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**DEVELOPING AN E-LEARNING TRAINING PACKAGE FOR ACADEMIC  
STAFF IN ONE UNIVERSITY IN SAUDI ARABIA**

by

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## **Abstract**

Developing an e-learning training package for academic staff in one university in Saudi Arabia

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The focus of this study is the development of an e-learning training package for the academic staff in King Faisal University (KFU) in Saudi Arabia. Evidence suggests that there is a lack of training for academic staff in Saudi Higher Education on how to integrate e-learning in their teaching. Despite this, very little attention is paid in the research literature to the design and evaluation of e-learning training. There is no clarity therefore about what constitutes effective e-learning training in higher education. This study aimed to design, implement and evaluate a training package for the academic staff. The study was conducted in two phases: 1) identifying the e-learning training needs and preferences of the academic staff in KFU; 2) designing, implementing and assessing a training package based on identified needs and preferences, e-learning training literature and common learning theories in the field. The study was qualitative. In phase one, 69 questionnaires and 17 interviews were analysed. The survey findings showed that the academic staff do suffer from the lack of training. Furthermore, the data showed a disagreement with the existing literature about the factors that limit the academic staff's use of e-learning. The academic staff's preferences for their future e-learning training were also determined and used to inform the design of the training package. Key design features of the training package included: covering both technical and pedagogical aspects of Blackboard; using blended delivery and using both cognitive constructivism and social constructivism to underpin its pedagogy. Evaluation data collected from a range of sources suggest that the academic staff responded well to the design features of the training package and that the training had a positive influence on

their practice. The study has proposed a model for the design and evaluation of e-learning training in higher education that based on five generic criteria including ownership, intersubjectivity, contextualisation, transformational potential and evidence based.

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## AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Work submitted for this research degree at the Plymouth University has not formed part of any other degree either at Plymouth University or at another establishment.

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# **Chapter 1:**

# **Introduction**

# **1. Introduction**

## **1.1. Introduction**

The current study will design, implement, and evaluate a training package underpinned by theory and based on the perceived technological and pedagogical needs of academic staff in King Faisal University (KFU) in Saudi Arabia. This chapter will argue that there is a lack of training for academic staff in Saudi Higher Education on how to integrate e-learning in their teaching. This thesis also will argue that there is a lack of effective e-learning training that emphasises both the technological and pedagogical aspects of using e-learning. This chapter reviews the literature concerning e-learning in Saudi higher education including e-learning policy, three initiatives to integrate e-learning into Saudi higher education and current usage of e-learning in five Saudi universities. This chapter also introduces the background of the study, a statement of the problem, my interest in the topic and my experience, the thesis research objectives and questions, the study context, a definition of the terms, and the structure of the thesis.

## **1.2. Background of the Study**

The effectiveness of using technology in teaching has been much researched. Many positive outcomes have been cited in many research studies. E-learning has been found to be very beneficial for learners, teachers and the learning process as a whole (Isman *et al.*, 2012; Hussein, 2011; Ally, 2008). Employing e-learning in teaching may motivate students, enhance teaching, increase productivity and enable the sharing of excellence (Poole, 1997). Furthermore, Leung (2004) adds that better attitudes, deeper understanding, and positive results in students' learning can be achieved by technology support in teaching. It is argued that e-learning enriches and improves the quality of education, overcomes the barriers of time and place, makes academic staff more

experienced, supports the educational process, and is therefore a method of modern teaching (Hussein, 2011). E-learning facilitates communication between students enabling them to share information, and benefit from learning together (Allen, 2005; Alenezi, 2012). Lai (2005) believes that e-learning encourages collaboration between students which in turn helps them to resolve the difficulties they may face. E-learning makes learning easier and flexible as it allows academic staff to provide instruction from anywhere and at any time. E-learning also allows students to see up-dated course materials immediately (Ally, 2008; Alhawiti, 2011). E-learning also can improve teaching and learning by increasing flexibility, reducing time consumption, increasing learner motivation and enabling better transference of knowledge (Coenen, 2002). According to Allen and Seaman (2006), e-learning may increase learners' intellectual and technological knowledge and skills. Laurillard (2005) also added that, "Students on many courses in many universities now find they have web access to the lecture notes and selected digital resources in support of their study, they have personalised web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study" (Laurillard, 2005, p.10). Against this backdrop of benefits, there are also a number of significant challenges that will be discussed in the next section.

### **1.3. Statement of the Problem**

The growing use of e-learning in higher education has led to changes in the way the role of academic staff is conceptualised. For example, they have been called coach (McPherson and Nunes, 2004), leader (Hotte and Pierre, 2002), tutor (Gerrard, 2002; McPherson and Nunes, 2004), moderator (Salmon, 2000; McPherson and Nunes, 2004), facilitator (Collison *et al.*, 2000; McPherson and Nunes, 2004), motivator, mentor, mediator and even production coordinator (English and Yazdani, 1999; McPherson and Nunes, 2004). A study by Skibba (2007) on the transformation of the roles of academic

staff in blended courses, showed that the learner-centred nature of the blended learning environment has forced the tutors to change their roles from content presenters to course facilitators. As a consequence, the tutors have had to address this new role by developing new skills that enable them to be successful facilitators for their students (Skibba, 2007).

This challenge has not been limited to the tutors. Higher education institutions also face a great challenge in coping with the new challenges (Albeshi, 2011). They have been required to provide support to tutors in different ways including developing infrastructure and technical support, curricula and administration, and providing training to academic staff.

One of the most important factors that plays a vital role in achieving an effective e-learning environment is the training of academic staff. Al-Shawi and Al-Wabil (2012), examined the level of Internet usage by faculty members in four Saudi universities. They surveyed 504 respondents from King Saud University (KSU), Imam Muhammad bin Saud University, Prince Sultan University (PSU), and Al-Yamamah College. A positive correlation was detected between the level of faculty's general use of computer and the level of their use of the Internet with students. This correlation predicts a crucial need for the faculty to be computer competent, which highlights an urgent need to help the faculty to develop their technological skills by providing proper training. Furthermore, in a review of the literature on the external and internal factors influencing the educational use of a Learning Management System called 'JUSUR' in Saudi's Higher Education. Asiri *et al.* (2012) argued that the effective use of the JUSUR system could be increased if the academic staff were provided with appropriate training and workshops related to e-learning.

Much research shows that academic staff suffer from a lack of training (Panda and Mishra, 2007; Birch and Burnett, 2009; Mitchell and Geva-May, 2009; Littlejohn 2002). Furthermore, there are many claims that the training courses provided to academic staff are ineffective either because they do not pay attention to the pedagogy (Donnelly, 2006; Rienties and Brouwer, 2013; Ebert-May *et al.*, 2011; Littlejohn, 2002; Kou and Wan, 2009; Alvarez *et al.*, 2009; Westerman and Barry, 2009; Rienties and Townsend, 2012; Salmon *et al.*, 2008) or because they do not meet the trainees' special needs (Yardy and Date-Huxtable, 2011; Taylor, 2003; Birch and Burnett, 2009; Irani and Telg, 2002; Oliver, 2004; McLean, 2005; Kou and Wan, 2009; Westerman and Barry, 2009).

In Saudi Arabian universities, unfortunately, there is a similar situation. Many studies show that there is a great need to train academic staff on their role as facilitators in e-learning settings (Al-Khabra, 2003; Al-Kahtani *et al.*, 2006; Alshehri, 2005; Al-Jarf, 2007; Alaugab, 2007; Alsadoon, 2009; Almuqayteeb, 2009; Al-Sarrani, 2010; Hussein, 2011; Asiri *et al.*, 2012; Ziyadah, 2012; Alhazzani, 2013; Alhbabi, 2013; Al-Shawi and Al-Wabil, 2012).

Al-Kahtani *et al.* (2006) explored the possible factors that influence the use of the Internet and its possible contribution to research in Saudi Arabia. She found that more attention needed to be paid to in-service training for female faculty members in Saudi Arabia in order to increase their ability to use the Internet efficiently. Alnujaidi (2008) carried out a survey to examine the factors that influence the use of web-based instruction by English Faculty members', in 20 higher education institutions in Saudi Arabia. A total of 320 faculty members participated in his study. Alnujaidi (2008) pointed out that Saudi Arabian higher education pays too much attention to the building of university campuses while the instructional process, professional development and technology integration have been ignored. He showed, moreover, that the faculty

members' use of instructional strategies will not improve unless more attention is paid to professional development related to both technical and pedagogical aspects of technology integration, through workshops, seminars and conferences. Al-Sarrani (2010) collected quantitative and qualitative data from the Science Faculty at Taibah University in Saudi Arabia, aiming to explore their concerns and professional development needs relating to adopting blended learning. The analysis of his data showed that 93% of the participants needed training and information on how to integrate technology into curricula. The analysis also demonstrated that the majority (86%) of the participants agreed or strongly agreed that they needed more training on the pedagogical aspects of technology integration and 82% of them stated that they needed more regular workshops. Al-Sarrani (2010) recommended that Taibah University must train its faculty on designing blended learning courses. Alaugab (2007) explored the perceptions of female faculty and students regarding, the benefits of, and the barriers to the adoption of online instruction. The participants were recruited from two universities in Saudi Arabia namely the Girls' Study Centre at Imam University in Riyadh city and the Girls' Education College in Buraydah city. The analysis of the barriers that might disable the faculty from adopting online instruction, showed that lack of technology skills and computer literacy, lack of established pedagogy for online instruction and lack of training for online instruction were among the ten most commonly found barriers.

Despite the fact that identifying the training needs of academic staff is the cornerstone for any training programme (Albeshi, 2011), many Saudi studies reveal that e-learning training programmes available for the academic staff do not meet their instructional needs (Aldakel, 2003; Alhbab, 2013; Alhawiti, 2011; Al-Sarrani, 2010). For example, almost all the participants (98%) in Al-Sarrani's (2010) study highlighted that the training programmes should meet their needs. Al-Asmar (2009) criticises the

bodies which are responsible for providing the training programmes, in general, in Saudi universities. She claimed that these training courses were usually not carefully planned and did not include any practical aspect. She further criticised the fact that information about academic staff's training needs was never sought; they were never consulted about the content of the training that they will attend. Training courses are usually short. In addition, a proper evaluation, which measures the influence of the training on the trainees' practice is usually missing (Al-Asmar, 2009).

The evidence reviewed therefore confirms the argument that academic staff in Saudi universities do need more training in using e-learning effectively for their instruction. The evidence also shows that Saudi universities do not listen to the needs of their staff and most of the courses provided omit the pedagogical aspect of adopting e-learning. Based on this argument, this study therefore intends to:

- 1- Seek to discover the e-learning training needs of the academic staff at KFU in Saudi Arabia.
- 2- Design a training course based on the needs analysis and the best practice examples in the field.
- 3- Implement and evaluate the training course.

#### **1.4. My personal interest in and experience of e-learning in higher education**

When I was a student teacher in the Teachers' College, my tutors relied completely on old tools such as chalkboard, flannel boards, pocket boards and overhead transparencies. They also used the tutor-centred lecturing method constantly. The College was introducing two new subjects: educational technology and teaching methods. However because two different departments taught these subjects, the teaching of them was not connected or integrated. Thus, the student teachers were taught out-of-date technical skills separately from pedagogical strategies.

Later on when I worked as a lecturer in the same College, I found that only a small number of academic staff used technology such as PowerPoint with their students. I was sent to Australia to study my Masters in Information and Communication Technology in Education and Training. I experienced a big difference between the way I was taught in Saudi Arabia and the way I was supposed to learn in Australia. I found e-learning was a major component of the teaching and learning processes, especially the use of learning management systems. There, I realised that teaching methods in Saudi Arabia needed to be updated and that the computer could have a very important role in my teaching practice in the future.

In 2008, the Teachers' Colleges amalgamated with KFU, which had some interest in e-learning. Fortunately, KFU has changed some components of the curricula taught by the staff of the Department of Education Technologies. The university has started using learning management systems such as WebCT and Blackboard and opened an online learning department. Thus, a small part of the problem related to being outdated has been resolved. However, a new problem has emerged. The academic staff have not been well trained to use these newly emerged technologies. In addition, as will be shown later, most of the training courses available for the academic staff in KFU emphasise the technological and the pedagogical aspects of e-learning separately.

All these experiences have increased my interest in finding the most suitable training methods that highlight theory and reality together. This study is therefore an attempt to provide better training to the academic staff in KFU and other universities in e-learning, which aims to help them to use e-learning effectively with their students.

### **1.5. Research Objectives**

This study investigates the current e-learning use and future needs of academic staff in the faculty of education at KFU. It then attempts to meet these needs by



developing and evaluating an e-learning training package. The study is entitled "Developing e-learning training for academic staff in one university in Saudi Arabia", and has the following objectives:

- To identify the technological and pedagogical training needs of academic staff in the faculty of education in KFU, Saudi Arabia.
- To design and implement a proposed training package based on the training needs of academic staff using modern technology.
- To evaluate the influence of the proposed package on the e-learning practices of academic staff.

## **1.6. Research Questions**

The main research question of this thesis is:

What are the e-learning training needs of the academic staff of the faculty of education in KFU and how can these needs be met by a training package?

Related to this main question are sub-questions:

- What are the e-learning training needs of academic staff in the faculty of education at KFU?
  - a. What e-learning facilities are available for academic staff in the faculty of education at the university? (Chapter 4)
  - b. What current e-learning skills do academic staff already have and how are they using e-learning with their students? (Chapter 4)
  - c. What factors either help or hinder the use of e-learning by academic staff? (Chapter 4)
  - d. What are the e-learning training needs and preferences of academic staff? (Chapter 4)
- How can the e-learning training needs of the academic staff of the faculty of education in KFU be effectively addressed?
  - a. How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package? (Chapter 5)

- b. How might e-learning theories and models inform the key design features and characteristics of an e-learning training package? (Chapter 5)
- c. What influence does engaging in an e-learning training package have on the practice of academic staff at KFU? (Chapter 7)
- d. How do academic staff respond to the design characteristics of the e-learning package? (Chapter 7)

## **1.7. Study Context**

Strategically, Saudi Arabia is located in the south-western part of the continent of Asia, and it is considered to be the largest country in the Middle East and is ranked fourteenth in the world (Almalki, 2011). The area of Saudi Arabia is about 2,250,000 square kilometres (868,730 square miles) (Alebaikan, 2010). In 2008, the population of Saudi Arabia was about 24.8 million. 73% (18.2 million) of the population are Saudis and 27% (6.69 million) are non-Saudis (Ministry of Economy and Planning, 2009). Saudi Arabia has been divided into thirteen provinces: Makkah, Medina, Riyadh (the capital city of SA), Eastern Province, Northern Province, Asir, Al-Baha, Hail, Al-Jouf, Jizan, Najran, Tabuk and Al-Qassim (Almalki, 2011).

Education in Saudi Arabia is the responsibility of three agencies: the Ministry of Education (MoE), the Ministry of Higher Education (MoHE), and the General Organization for Technical Education and Vocational Training. However, MoHE has sole responsibility for higher education, the focus of this study. Saudi's MoHE was established in 1975. From that time onward it worked hard to develop human resources, which are considered to be a pillar of any nation. Recently, the number of universities in Saudi Arabia has increased to 25 government universities and nine private universities (MoHE, 2012; Algahtani, 2011). There is one government university in Al Ahsa City namely KFU, located in the Eastern Province.

MoHE supports and funds the governmental universities and supervises the private ones. It is responsible for developing policies and putting in place plans to develop the higher education sector (Almuqayteeb, 2009). However, these policies seem to be an outline only, whereas detailed strategies and the methods for implementing such policies are not outlined. However, short-term, medium-term and long-term plans are published and regularly updated. Moreover, the MoHE is interested in developing the faculty at higher education institutions in Saudi Arabia by providing training programmes (Almuqayteeb, 2009).

### **1.8. Policies**

The Kingdom has not only mentioned IT in all the sectors of its latest development plan for the country, but it makes achieving the optimal use of IT one of the main objectives of higher education (Ministry of Economy and Planning, 2010), which is, in turn believed to be a significant means to producing and developing the necessary human resources for the labour market (Al-Anqari, 2007). Since 1970, the MoE has created educational policies at all levels of education, including higher education. Higher educational policies, for example, seek to find appropriate methods for developing the required technological progress. Moreover, MoHE seeks to equip all educational institutions, including universities and colleges, with the latest technological tools (MoHE, 2009). MoHE has produced five-year development plans that align with the Kingdom's general national plan. Almalki (2011) reviewed the seventh (2000-2004) and eighth (2005-2009) plans of the MoHE and noted a significant shift from focusing on providing the resources in the seventh plan to “ the quality and performance of those resources in the eighth” (Almalki, 2011,p.25). Almalki (2011) also pointed out that the MoHE in its eighth plan aimed for greater use of ICT by promoting e-learning and distance learning in order to provide more access to higher education. In 2011, the policy document for e-learning and distance learning in higher education

institutions in Saudi Arabia was published. Some of the most important policies that are particularly relevant here are:

- To support the development of the institutions and the programmes of e-learning and distance learning to achieve the aims and objectives of national and social development.
- To use modern ICT to distribute e-learning and distance learning solutions.
- To develop both the ICT skills of academic staff and the electronic curriculum and provide the technical and consultative support important to them.
- To equip educational institutions with the required hardware, software, infrastructure and professional staff for e-learning and distance learning activities.
- To prepare and train academic staff and learners for e-learning and distance learning (MoHE, 2011).

Unfortunately, the e-learning policies document does not give further details about how these aims will be achieved. These policies seem to be an outline only, whereas specific strategies and the methods for implementing such policies are not mentioned. This fixed policy has been complemented by short-term, medium-term and long-term implementation of development plans. One of the latest and most important long-term (twenty-five-year) development plans for higher education is the one that began in 2006, entitled ‘Future Plan for Universities Education in Saudi Arabia (AAFAQ)’. Another project carried out in order to support educational development was the establishment of a special centre for e-learning and distance learning, called the ‘National Centre for E-learning and Distance Learning’ (NCeL) (MoHE, 2009). Another project conducted in order to promote academic staff development was entitled

“ Implementing the development of innovation and excellence of academic staff at universities” (MoHE, 2010a). These three initiatives will be described in more detail below.

### **1.8.1. AAFAQ**

AAFAQ is the name given to the modern and ambitious long-term ‘Future Plan for University Education in the Kingdom of Saudi Arabia. It was launched in 2006 and intended to last for 25 years (until 2030). This plan was set up in an attempt to meet the challenges facing higher education, namely to achieve academic excellence in view of the high rate of population growth, the influence of globalisation on educational principles, ever-increasing funding demands and labour market needs for highly qualified graduates and faculty. (AAFAQ, 2010a; MoHE, 2010a).

The AAFAQ project launched some technical studies, including tracking studies, specialised studies and professional sector studies. Specialised studies in turn focus on four areas: Educational Technologies, Students, Faculty (academic staff) and the Information Technology System. Many authors (such as Sait, 2012; AAFAQ, 2010a; MoHE, 2010a; AAFAQ, 2010b; Al Ohali and Al Aqili, 2010; Pavan, 2013; Alebaikan, 2010) have talked about AAFAQ in general descriptive terms with no reference to the outcomes of these studies. This is because many planned studies have not been implemented yet and therefore no evaluation data are available yet. For the purpose of the current study, the studies relating to Educational Technologies and Faculty (academic staff) will be discussed in more detail (AAFAQ, 2010a; AAFAQ, 2010b).

#### ***-Educational Technologies Study***

This project conducted by AAFAQ stresses the major role that is being played by educational technologies in the success of the educational process. The project intends to evaluate the educational technologies currently available in Saudi higher education

institutions and the ones that will be available in the future. It also aims to suggest “ the most appropriate methods for improving the quality of learning levels, reducing the costs associated with the education process, enhancing the internal efficiency, and increasing the higher education system’s compliance with rates to the requirements of the job market” (AAFAQ, 2010b, p.8). The results of that evaluation should reveal the following:

- Identify factors, methods, mechanisms, tools and infrastructure that are required for the meaningful usage of educational technologies in higher education institutions in Saudi Arabia.
- Present a comprehensive pedagogic model of educational technology use in higher education.
- Suggest the appropriate rules and pedagogies for females’ use of educational technologies in higher education.
- Propose the comprehensive quality criteria essential to design and execute all related aspects (AAFAQ, 2010b).

***- Faculty (academic staff)***

Realising the fact that academic staff have the greatest influence on building the higher education system in Saudi Arabia, AAFAQ has highlighted the importance of providing the necessary training to the staff. This training needs to emphasise the best practices of learning and education in general as well as enabling the acquisition of the professional technical skills necessary for making the best use of scientific tools and methods. The target audience of such training should be all the academic staff with no exceptions, including professors, associate professors, assistant professors, instructors,

and research assistants, in addition to academic advisors, technical advisors and other staff contributing to the teaching and training of students (AAFAQ, 2010b).

### **1.8.2. NCeL**

E-learning in Saudi education started with an initiative by the King Fahad University of Petroleum and Minerals (KFUPM) in 2000 (Al-Khalifa, 2010). In 2006, more attention was paid to e-learning by the MoHE as a creative step towards to the fulfilment of the Kingdom's mission to spread knowledge and information, by establishing NCeL (NCeL, 2012a; MoHE, 2009).

The centre has implemented a number of projects in order to achieve the aforementioned goals, such as JUSUR, MAKNAZ, the Saudi Digital Library (SDL), SANEED and Project of Training and Qualification (PTQ) (Al-Khalifa, 2010; Dhaou and Abdessemed, 2009; MoHE, 2009; NCeL, 2012a). For the purpose of this thesis, some of these projects are discussed below.

JUSUR is a Saudi Learning Management System (Al-Khalifa, 2008). MAKNAZ is a national repository for teaching materials. It was created to develop, archive, retrieve, reuse and share teaching materials and resources. Thus, high quality digital curricula are ensured at universities at reduced cost (MoHE, 2009; NCeL, 2012b).

The SDL is another project created by NCeL to enhance Saudi education generally with the focus on e-learning and distance learning. It meets the needs and requirements of scientific research, enables competency and the building of a knowledge society. Also, the SDL includes more than 140 thousand scientific references in all academic fields (NCeL, 2012c; MoHE, 2009).

SANEED refers to the Saudi Centre for Support and Counselling. This centre's main job is to "provide educational, academic and advisory support and guidance to all

beneficiaries of e-learning, whether students, faculty members or any other external customers of the NCeL” (NCeL, 2012d, paragraph 1). SANEED offers services by phone, email, live chat and SMS.

The PTQ is one of the projects being carried out by NCeL, and its aim is to provide e-learning training to the academic and technical staff in Saudi Universities. Its training courses range from simple awareness and basic skills to more advanced and professional programmes (NCeL, 2012e). In 2010, PTQ offered 22 face-to-face training programmes for 410 academic staff from Saudi universities, which included E-learning tools, Course Lab, JUSUR, PowerPoint, online exams, Articulate and mobile learning. Also, PTQ offered some online training programmes such as Web 2.0 (NCeL, 2012f).

Recently, NCeL has launched a competition for e-learning which is open to all Saudi universities and their staff, called the ‘Excellence Reward for e-learning in University’. This initiative aims to raise awareness of excellence in e-learning in the Kingdom of Saudi Arabia. Moreover, it sets the standards of excellence and innovation in e-learning applications, and promotes initiatives that contribute to the enrichment of e-learning in universities. It is also going to publish what it considers to be the best practices in the areas of e-learning. The award could be gained in six areas that are: excellence in digital curricula, excellence in activation of learning management systems for universities, excellence in digital content design for academic staff, excellence in modern e-learning technology use, excellence in e-learning research, and excellence in e-learning training for academic staff (NCeL, 2012g).

Another important initiative that is run by NCeL is the International Conference for e-learning that is held in Riyadh every year. In this conference, hundreds of researchers, experts and academics meet and review their work to enrich the e-learning field. In addition, many workshops are held locally and internationally every year to



develop Saudi educators' skills in e-learning, regardless of the institution where they teach, and to enhance the Saudi e-learning experience (NCeL, 2012h).

### **1.8.3. Implementing The Development of Innovation and Excellence of Academic Staff at Universities**

This project aims to raise the quality of Saudi universities and it includes a number of programmes and training courses that aim to improve the skills of academic staff through a co-operation between Saudi Universities and expert institutions. Those programmes and training courses include teaching, electronic publishing, using the Internet in education, effective teaching skills, scientific research skills, training, and statistical analysis, designing tests and evaluation skills, and communication and academic leadership skills (MoHE, 2010a). Every year, the MoHE runs a competition among Saudi universities in order to choose the best staff development plans. The Ministry funds the winning programmes. In 2009, the Ministry awarded the winners a total of 60 million Saudi Riyals to conduct 439 training programmes in Saudi universities and 35 training programmes in co-operating expert institutions (MoHE, 2010b). For example three e-learning programmes of KFUPM, namely “Planning and management of e-learning programs in higher education”, “E-learning program: Teaching skills and education networking”, and “ Training peer counsellors”, won in 2008 (Deanship of Academic Development in KFUPM, 2008). In addition, one e-learning programme won in KSU in 2008. This programme has been implemented in two other Saudi universities as well, namely Tabouk University (10 academic staff) and Qassim University (35 academic staff) (KSU, 2008).

## **1.9. Saudi Arabian Universities and E-learning**

Universities in Saudi Arabia began developing their own e-learning strategies in response to the MoHE's e-learning policies. For example, all universities in the

Kingdom have a centre or deanship for e-learning issues and academic development. Furthermore, all universities use one or more Learning Management System, like WebCT, Blackboard and JUSUR. Some of the universities support distance learning, such as the KFUPM and the King Abdulaziz University (KAU). All the universities have a number of online courses. The number of these courses is increasing, and all universities offer a number of e-learning training programmes. For instance, it is evident that the number of courses instructed online in 2005 in KFUPM has increased to 654 courses, whereas there were only 75 courses in 2001 (Aljarf, 2007; E-learning Center in KFUPM, 2012). Also, the KFUPM carried out a number of e-learning training courses for academic staff such as an introduction to WebCT, online course content development, online course content development using Macromedia Flash and online course content development using Macromedia Authorware (Deanship of Academic Development in KFUPM, 2012).

There has been huge recent growth in the number of universities in Saudi Arabia, where the number has jumped from eight government universities only in 2005 to twenty-five government universities in 2012 (MoHE, 2012; Algahtani, 2011). A study of published research articles and theses on the use of e-learning in Saudi universities revealed that many articles and theses only cited information from university websites as their supporting evidence. Attempts were therefore made to obtain fuller more detailed annual reports on e-learning by contacting each university deanship and requesting a copy. The deanship was contacted either by e-mail, phone or in person (the researcher having been supplied with a letter of introduction from his own university). These attempts were however not successful. It seems most of the reports were not intended for public access and were written for internal official use only.

### **1.9.1. KFUPM**

As the research in this thesis is focused on the college of education in KFUPM, some

of the e-learning initiatives in this institution will be highlighted. E-learning in KFU has received great attention recently, as the university has promoted the Information Technology centre to the level of a deanship, known as 'The Deanship of E-learning and Distance Education' since 2009. The deanship aims to improve and develop the educational process of KFU by creating an integrated learning environment in which they employ the latest technologies and a style of management that corresponds to KFU policies. The mission is dedicated to enhancing the skills of KFU faculty members and students by equipping them with the latest technologies (Deanship of E-learning and Distance Education in KFU, n.d.).

The deanship also seeks to support the university's progress towards integrating technology in its educational system, so that a learner-centric system is applied, which has internationally recognised quality and impact. Furthermore, the deanship encourages students to assume greater responsibility for their own learning. KFU offers many e-learning systems, including a Blackboard / WebCT learning management system, a virtual classroom system, a class capturing / recording system, an authoring tool and content management system, and an online exam system (Deanship of E-learning and Distance Education in KFU, 2012a).

The deanship has focused on distance education more than full-time learning students, as the number of students studying distance education in 2012 is 82,000 in the Faculty of Arts (Department of Islamic studies, Department of Arabic Language, Department of English Language, Department of Social Studies, Department of History and Department of Geography), Faculty of Education (Department of Special Education) and Business Administration Faculty (Department of Business Administration). These students sit final exams in 140 centres in many regions across Saudi Arabia and the Gulf States. Each location has a separate test centre for males and females. There are 500 online courses in different fields, comprising about 7,500

recorded lectures which were recorded in the deanship studios, and are updated as requested by lecturers if they need to add new content, or change course the lecturer. Every four semesters course are updated to keep up with new knowledge (Deanship of E-learning and Distance Education in KFU, 2012a).

Recently, KFU has started using Learning Management System for full-time students as well. In 2012, there were 640 courses on Blackboard for both full-time students and distance education students. There are a number of reasons for this trend. First of all, Learning Management System was used to solve the problem of the huge number of students registered for one course at the same time; there could be 20 classes of up to 50-75 students each. Therefore, the deanship recommended the use of Blackboard to reduce the number of classes to one for all the students and thus one lecturer would be sufficient for all of them. The courses that were taught by using Blackboard were management and planning in education, education in Saudi Arabia, psychological health, health education and the development of educational thinking (Deanship of E-learning and Distance Education in KFU, 2012a). Secondly, to enable the shift from traditional face-face lecturing, the university has employed a team of specialists, technicians and academic staff to develop the curricula to be presented to students on Blackboard based on Sharable Content Object Reference Model standards. However, when selecting the curricula, the deanship's great emphasis is on the requirements of the university and colleges (Deanship of E-learning and Distance Education in KFU, 2012b).

The deanship encourages KFU academic staff to use the Learning Management System (Blackboard) by providing some rewards such as laptops for instructors that participate in e-learning and upload their courses on Blackboard, financial rewards for instructors who work with the e-learning deanship to teach on distance education courses and help in developing e-contents course. Any instructors using technology in

their full-time teaching will have a special salary enhancement (Deanship of E-learning and Distance Education in KFU, 2012b).

Despite all the facilities, rewards and efforts made by the Deanship of e-learning and distance education, the training courses available are not fully exploited. The Deanship of Academic Development seeks to develop academic staff to prepare them for use of e-learning through two area which are learning and teaching skills and IT skills. In 2012, the training programmes offered by Deanship of Academic Development were Blackboard, course design, effective use of e-learning (the current study), PowerPoint, Office 2010, web page, web 2.0, design of e-learning package, and Educational applications of constructivism theory (5 participants only) (Deanship of Academic Development in KFU, 2012). Moreover, on its website, the Deanship of E-learning and Distance Education provides video clips for instructors, explaining how to use the different features of Blackboard Learning Management System, including login to Blackboard, syllabus, content module, adding students to the course and self-registration (Deanship of E-learning and Distance Education in KFU, n.d.).

According to The Deanship of E-learning and Distance Education in KFU (2012b), their observations of the members of academic staff who have participated in e-learning teaching in KFU have been classified into four categories. Firstly, members have participated due to pressure from the head of their department or a college request. These members are considered to have good course design and good material in the beginning, but they have never ever updated their course materials and no students have enrolled for their courses. In the second category are members who have participated in order to be eligible for rewards such as laptops and an increase in salary. These members are considered to have poor course design skills, no materials, have made no updates and enrolled no students. In the third category are members who have participated in order to advertise online, and have uploaded some documents and notes

because they do not want students to disturb them in their offices asking them for these things. These members are considered to have no course design skills. However, there are a few materials uploaded to Blackboard and students have enrolled for their courses. Finally, in the fourth category, are members who have participated because they have experience in e-learning, and they are willing to use e-learning to help their students. They understand and believe in the role of e-learning and technologies in teaching. These members have excellent course design, rich course materials; their course materials have been updated and their students enrolled (Deanship of E-learning and Distance Education in KFU, 2012b).

This finding stimulates thinking about what kind of participants should be recruited for future training programmes in e-learning especially in terms of their prior experience in using e-learning. However, having a variety of prior experiences could be useful according to constructivism theory. Thus, participants will share their experience and help each other in order to progress into their Zone of Proximal Development (ZPD) successfully (see section 2.4.2).

### **1.9.2. KSU**

KSU was one of the first universities to initiate the use of E-Learning. In 2007, KSU offered blended learning for female students in the College of Applied Studies and Community Services (Alebaikan, 2010). According to Hussein (2011), KSU is considered to use the JUSUR Learning Management System more widely than other Saudi universities, as it has about 1,283 courses out of a total of 2,336 JUSUR courses.

KSU has undertaken a number of steps towards integrating technology in its educational system including the provision of basic infrastructure and training. Firstly, the Deanship of E-learning and Distance Education provided the basic infrastructure of e-learning including smart classrooms, an educational studio, Learning Management

System, video-conference, e- content development tools, pre-existing digital courses, a virtual classroom system, and a class capturing / recording system (Deanship of e-learning and distance education in KSU, 2010). Secondly, the Deanship of Skills Development offered e-learning training programmes such as the use of Twitter in university teaching, Learning Management System, integrating technology in teaching, learning theories, course design and construction, using a smart classroom and educational podcasts (Deanship of Skills Development in KSU, 2011; Deanship of E-learning and Distance Education in KSU, 2010; Deanship of Skills Development in KSU, 2012).

### **1.9.3. KAU**

KAU was the first Saudi university which benefited from e-learning facilities used in distance education. In 2005, KAU made an agreement with Virginia Tech University (VTU) to organize their e-learning. First of all, they sent 60 KAU academic staff (male and female) to obtain e-learning training in VTU for three months. Secondly, VTU organized classes for KAU faculty members, planning to serve over 50,000 students through distance learning by 2010 (Alsaeid, 2011). In KAU, staff could use the virtual classroom system (CENTRA), the E-learning Management Electronic System (EMES), electronic examinations system (E-Exam) and a mobile learning application (Al-hargan, 2008; Deanship of E-learning and Distance Education in KAU, 2012a). KAU encourages its academic staff to use e-learning through offering several e-learning training courses such as CENTRA, EMES, electronic exams system, e-course design, social networking, introduction to e-learning, mobile learning and Camtasia recording system (Deanship of E-learning and Distance Education students in KAU, 2012b). There are three types of students including full-time students, distance education students, and external students. External students are not required to attend any face-to-face or online classes. They come to campus if they want to or if they have final

examinations. However, they need to attend a two-week intensive course to learn how to use CENTRA. Distance education students are required to attend online classes only, with no face-to-face classes at all. The only time they need to be on campus is when they have their final examinations. The differences between distance and external students are outlined in Table (1.1.) (Deanship of E-learning and Distance Education in KAU, 20112c; Alsaeid, 2011).

Aspect	External Students	Distance Education students
Attendance	Self-studying and attend intensive course for two-weeks through CENTRA.	Attend online classes,
Learning Method	CENTRA at beginning and communication between students and academic staff by e-mail.	Interaction in CENTRA or EMES
Assessment	Only final examination	- 40% for assignment, mid-term exams, and attendance and interact with academic staff through CENTRA. - 60% for final exam.
Table 1.1. : Types of students at KAU		

#### 1.9.4. Saudi Electronic University (SEU)

The SEU was established in 2011, and started accepting students in the academic year 2012-2013. The number of students in 2012 was about 8,000. Students experienced blended learning in

- The College of Administrative and Financial Sciences (Department of Business Administration, Department of Finance, Department of Accounting and Department of E-Commerce),
- The College of Computing and Informatics (Department of Computer Science, Department of Information Technology and Department of Informatics Computer),



- And the College of Health Sciences (Department of Health Informatics and Department of Public Health) (SEU, 2012a).

SEU has used blended learning according to a unified educational style with efficiency and high quality, which includes 25% face-to-face classroom time and 75% online by attendance and interaction through a virtual classroom, an educational forum, the contents of e-books, and using a Learning Management System. At SEU the preparatory or foundation year is conducted in English, in order to develop students' English language skills (Almousa, 2013; SEU, 2012b). The SEU community uses Blackboard and Education First as Learning Management System that are available to manage, deliver and conduct their courses flexibly through the web. Education First is an online system, which is used by preparatory year students to learn English Language (SEU, 2012c). The SEU website also provides tutorials in the form of video clips for academic staff, explaining how to use the different features of Blackboard such as working in the course environment, building course content, assignments, grade centre; and using the discussion board, blogs and journals (Almousa, 2013, SEU, 2012d).

#### **1.9.5. King Khalid University (KKU)**

KKU was the one of the first Saudi universities that integrated of technology in teaching. Since 2009, KKU has used three different levels of e-learning: supplementary level, blended level, and entirely online level (Alebaikan, 2010; Deanship of e-learning in KKU, 2011). In order to support the progress of the university towards integrating technology into its educational system, a five-year strategic plan for improving the quality of learning was applied. The strategic plan was to change 10% of traditional courses to blended learning courses (2% per year) from 2009-2013 (Alebaikan, 2010). KKU academic staff, like others that have been described, use Blackboard Learning Management System, Virtual Class Room System (Elluminate), Camtasia recording system, and an online examination system. The deanship of e-learning in KKU created

some of the university's required courses, namely Computer Science, Introduction to Computer Science, Introduction of Islamic culture, Islamic culture, Intensive English Language and English Grammar (Deanship of e-learning in KKU, 2013a).

In the first semester of 2012-2013, KKU used three different types of delivery for e-learning training, which were face-to-face training, self-training through tutorials on the deanship of e-learning website, synchronous e-learning training through Blackboard, and asynchronous e-learning training through Elluminate. Moreover, the deanship of e-learning offered an e-learning training programme on e-learning systems which were available in KKU, such as e-learning in KKU, an online examination system, Elluminate, Camtasia recording system, e-learning teaching skills, E-course, enhancing communication and interaction, and student assessment. In the same semester, the deanship of e-learning offered 46 e-learning training programmes for 1,123 members of the academic staff (Deanship of e-learning in KKU, 2013b). The deanship of e-learning also provided some video clips for academic staff self-training about Blackboard, Camtasia recording system, a virtual classroom synchrony system, Movie Maker, PowerPoint 2007, Google, teaching on the Internet and an online examination system (Deanship of e-learning in KKU, 2013c). Finally, in the first semester of 2011-2012, there were about 35,436 students studying in three different types of e-learning courses in KKU with 1,539 academic staff. At that time, there were 48 e-learning courses that ran completely online. Similarly, there were 341 e-learning courses that were delivered in a blended mode (Deanship of e-learning in KKU, 2012d).

In looking at the description of these training packages, the majority have focused on technical aspects and not pedagogical- i.e. how to use it with students and different strategies for doing so. However, the little information available about the training programmes provided by Saudi universities suggests that there are only a handful of courses focusing on pedagogy. For example, KSU offers training packages titled

‘course design and construction’, ‘learning theories’ and ‘integrating technology in teaching’. KKU also provides training packages such as ‘e-learning teaching skills’. Except for the titles of the training packages, there is no more information about the their actual content.

## **1.10. Definition of the Terms**

The five key terms which will be used throughout the thesis are defined below.

### **1.10.1. E-learning**

Although the concept e-learning has been used in the field of education since the mid nineties, there is as yet no clear agreed definition for it (Lee *et al.*, 2009). E-learning stands for electronic learning and researchers use many other terms that share similar characteristics with e-learning. These terms include computer-based training, technology-based training, computer-aided learning (Robinson, 2009), online learning, virtual learning, distributed learning, networked learning, web-based learning (Waltonen-Moore, 2007; Wentling *et al.*, 2000), distance learning and technology-based learning (Wentling *et al.*, 2000). In addition, some web-based educational packages such as Blackboard and WebCT are also used to refer to e-learning.

Papanikolaou (2007) defines e-learning as any educational and/or training programmes that are delivered by electronic tools such as computers or mobile phones. Papanikolaou (2007) adds that learning processes can be synchronous and/or asynchronous. Nerguizian and Nerguizian (2006) believe that e-learning is a learning method that is dependent on electronic media such as audio/video tapes, the Internet and wireless media. Moreover, Robinson (2009) expands the definition of e-learning to be the catchall or the umbrella term that includes a large number of computer-based learning methods. On the other hand, Welsh *et al.* (2003) narrow the definition of e-learning to the use of the Internet or Intranet as a deliverer of information and

instruction to individuals. The previous definitions highlight e-learning according to the tools that are used to deliver learning materials to learners. These tools include audio/video tapes, CD-ROMs, DVD-ROMs, the Internet, Intranet, extranet, TV, mobile phones, wireless media, etc (Welsh *et al.*, 2003; Papanikolaou, 2007; Robinson, 2009; Sorebo *et al.*, 2009; Engelbrecht, 2005).

Other authors focus on the benefits or characteristics of using e-learning when defining it, such as overcoming place and time issues. Shih *et al.* (2008) mention that because of its asynchronous and synchronous features, e-learning allows learners to access learning materials without time or location barriers. Some researchers perceive e-learning as a complete learning environment and emphasise the pedagogies used in such learning environments. Learning in an e-learning environment is believed to be more self-paced and self-motivated (Shih *et al.*, 2008). E-learning also uses student-centred and interactive learning environments in order to support active learning (Huffaker and Calvert, 2003; Zhang *et al.*, 2004). Further, Wan *et al.* (2008) prefer to call e-learning “virtual learning” and define it as “a Virtual Learning Environment (VLE) in which a learner’s interactions with materials, peers and/ or instructors are mediated through Information and Communication Technologies (ICT)” (p. 513). Moreover, Awodele *et al.* (2011, p.71) define e-learning as: “an innovative approach for delivering electronically mediated, well-designed, learner-centred interactive learning environments to anyone, anyplace, anytime by utilizing the internet and digital technologies in respect to instructional design principles.”

For the purposes of this thesis e-learning is defined as: the use of any type of computer hardware and software including the Internet and Learning Management Systems by academic staff or learners in the higher education sector in order to achieve the desired learning objectives. This definition reflects the broadness of definitions

identified in this section and also seeks to be inclusive in relation to the kind of technologies that respondents in this study are likely to be using.

### **1.10.2. Blended Learning**

As with e-learning, there is no consensus regarding a definition for blended learning. Different definitions have been adopted according to the research purposes and contexts (Teng *et al.*, 2009). Some researchers such as Rovai and Jordan (2004) and So and Brush (2008) use the term hybrid learning instead of blended learning. Blended learning in its simplest form is defined as the combination of face-to-face and online learning (Collis and Moonen, 2001; Teng *et al.*, 2009; Wanstreet, 2007; Garrison and Kanuka, 2004).

Rovai and Jordan (2004) define blended learning as a flexible approach that allows a hybrid of traditional face-to-face and online learning, therefore the learning process occurs both in the classroom and online. Blended learning provides the conveniences of online courses without losing the face-to-face contact. Lai *et al.* (2005) believe that blended learning is one type of technology-mediated learning that has a positive effect in improving the learning outcome through an alternation or combination of actual courses and Internet courses. Some researchers prefer to indicate exact percentages of this combination. For example Teng *et al.*, (2009) define blended learning as a course that includes between 30% to 79% of online contents. Singh and Reed (2001) mention the purpose of this type of learning in their definition as they state that blended learning is “a learning program where more than one delivery mode is being used with the objective of optimizing the learning outcome and cost of program delivery” (Akkoyunlu and Yılmaz-Soylu, 2008, p.26). Furthermore, Brew (2008) believes that mixing online learning and face-to-face learning formats could create a more effective and meaningful learning experience than either medium can offer alone. Similarly, Finn and Bucci (2004) mention the goal of using such a hybrid but they do

not identify specific components. They define blended learning as different learning techniques, technologies, and delivery modalities that are integrated to meet specific communication, knowledge sharing, and information needs effectively. Procter (2003, p. 3) also defines blended learning as “the effective combination of different modes of delivery, models of teaching and styles of learning” without pinpointing the elements of that combination. Wu *et al.* (2010, p.2) use the term blended e-learning and point out that blended e-learning is “the convergence between traditional face-to-face learning and e-learning environments.

In this study, blended learning will be considered as the combination of the advantages of face-to-face and online instruction in order to avoid the disadvantages of both modes.

### **1.10.3. Support**

In investigating what kinds of support academic staff at KFU have available to them three kinds of support will be noted: infrastructure support, technical support and administrative support.

#### **- *Infrastructure Support***

Infrastructure support “including computer labs and Internet access are major resources for integrating web-based instruction” (Alebaikan, 2010, p.67). In this study, the term infrastructure support includes computers, computer labs, software, hardware and networks.

#### **- *Technical Support***

Technical support “includes providing faculty members with the necessary hardware and software for delivering instruction, helping faculty to solve any technical problems either via phone or e-mail, assisting faculty to develop and maintain online

courses, and any other operating support” (Alhawiti, 2011, p.61). In this study, the term of technical support will be considered as referring to the help desk that has the responsibility of responding to the inquiries, solving the technological problems and making the required changes.

- ***Administrative Support***

In this study, the term of administrative support will be recognised as referring to the decision-makers who provide assistance to the academic staff such as, funding, guidance, oversight, and overcoming the challenges that inhibit the e-learning adoption.

### **1.11. Structure of the Thesis**

This thesis includes eight chapters as outlined below:

**Chapter 1:** Is an introduction for the entire study and includes the background of the study, a statement of the problem, research questions and objectives, definitions of key terms and the study context in Saudi Arabia,

**Chapter 2:** Provides a literature review of relevant issues and themes including: Saudi higher education, Saudi universities and e-learning, factors that either help or hinder the use of e-learning by academic staff, and a theoretical framework of the study.

**Chapter 3:** Describes the research design and methodology of phase one of the study- a survey of the e-learning training needs of academic staff at KFU. This chapter includes the rationale for the research methodology, a description of data collection tools, piloting, sampling and recruitment, and an outline of the ethical and data analysis procedures used.

**Chapter 4:** Presents analyses of the research findings and discussion of the academic staff training needs (technological and pedagogical) analysis.

**Chapter 5:** Describes the actual design and implementation of an e-learning training package for academic staff at KFU and shows how this design is underpinned by both the training needs analysis data and a review of the literature describing existing e-learning training projects for academic staff.

**Chapter 6:** This chapter describes the methods used to evaluate the success of the e-learning training package and used research literature to provide a rationale for this design.

**Chapter 7:** Presents analyses of the research findings and discussion of the e-learning training package evaluation.

**Chapter 8:** This chapter discusses the implications for implementing e-learning training for academic staff in Saudi universities, presents recommendations from the study, suggests areas for future research, and considers the challenges and limitations of the research study.

## **1.12. Summary**

This chapter has introduced the current study in terms of the background, the statement of the problem, the author's background, the research objectives and questions, and context. This chapter has also provided a review of the literature related to the field of the current study, including the policies of the MoHE in terms of e-learning usage in Saudi universities. A number of the projects that reflect the efforts of both the Ministry and the Saudi universities to develop e-learning have been described. The current situation of the use of e-learning in the five biggest universities has been presented. The study argues that the academic staff in Saudi universities need more effective training on e-learning that highlights both the technical and the pedagogical aspects of it and meets their practical needs. The study will propose, implement, and evaluate an e-learning training package that meets the needs of academic staff and represents the best



practices in the field. Several key terms have been defined and discussed. The organisation of the thesis has been outlined. The next chapter will present the review of the literature of the key topics related to the study.

# **Chapter 2:**

# **Literature Review**

## **2. Literature Review**

### **2.1. Introduction**

This chapter reviews the literature points to many important barriers facing Saudi universities in the integration of e-learning such as negative attitudes, lack of time, lack of support (infrastructure, technical and administrative), and lack of training. This chapter will review the advantages and disadvantages of using e-learning. Moreover, this chapter deals with two learning theories related to e-learning, namely cognitive constructivism and social constructivism, which will be used to design and implement a training package based on the perceived technological and pedagogical needs of academic staff in KFU.

### **2.2. Barriers of Using E-learning**

There are still many barriers to the use of e-learning by academic staff which limits the potentially wide-spread benefit of e-learning. Researchers have outlined a number of these barriers, such as staff attitudes (Liaw *et al.*, 2007; Panda and Mishra, 2007; Mohammadi *et al.*, 2011; Al-Mogbel, 2002; Abu Qudais *et al.*, 2010; Hussein, 2011); lack of time (Haywood *et al.*, 2000; Newton, 2003; Vrasidas, 2004; Birch and Burnett, 2009; Albalawi, 2007; Almalki, 2011; Alhazzani, 2013), lack of support which were including infrastructure support (Haywood *et al.*, 2000; Vrasidas, 2004; Chitanana *et al.*, 2008; Al-Jarf, 2007; Ziyadah, 2012; Alhazzani, 2013; Alhawiti, 2011; Albeshi, 2011; Al-Shawi and Al-Wabil, 2012), lack of technical and administrative support (Soong *et al.*, 2001; Panda and Mishra, 2007; Chitanana *et al.*, 2008; Osika *et al.* 2009; Al-Jarf, 2007; Ziyadah, 2012; Alhazzani, 2013; Alhawiti, 2011; Albeshi, 2011; Al-Shawi and Al-Wabil, 2012); and lack of training (Pajo and Wallace, 2001; Panda and Mishra, 2007; Newton, 2003; Vrasidas, 2004; Birch and Burnett, 2009; Mitchell and Geva-May, 2009; Al-Kahtani *et al.*, 2006; Alaugab, 2007; Al-Sarrani, 2010; Asiri *et al.*,

2012; Alhazzani, 2013; Hussein, 2011; Alhawiti, 2011; Albeshi, 2011; Al-Shawi and Al-Wabil, 2012). These barriers are described in more detail below.

### **2.2.1. Attitudes of Academic Staff**

One of the major factors that has an effect on the successful adoption of e-learning is educators' attitudes. This factor has been much researched. The majority of studies reveal that there is a positive relationship between e-learning adoption and instructors' attitudes. According to Liaw *et al.* (2007), the more positive attitude that individuals have on e-learning, the greater behavioural intention they have to use it. Al-Mogbel (2002) emphasised the importance of understanding the attitudes of academic staff when trying to implement distance learning. Albirini (2006) also states that implementing educational technologies meaningfully mainly depends on the attitudes of educators.

Many studies from different parts of the world mention that integrating technology in higher education is limited due to academic staff attitudes towards the usage of e-learning. For example, in their examination of the attitudes of academic staff of the Indira Gandhi National Open University towards e-learning, and exploration of the barriers and motivators of e-learning adoption and usage, Panda and Mishra (2007) find that there is a strong relationship between the extensive use of computers and e-mail and academic staff's positive attitudes towards e-learning. Also, about 52.5% of the 603 academic staff in Jahad-Keshvarzi agricultural education centres in Iran who responded to a survey by Mohammadi *et al.* (2011) had a high positive attitude toward e-learning and 42.9% had a moderate attitude, while only 4.6% of the respondents had an unfavourable attitude to e-learning in educational activities. Krishnakumar and Rajesh (2011), in their study to determine the attitude of higher education teachers towards e-learning in Tamil Nadu in Indian, found that teachers who have knowledge of computers, blogs and Internet access have more positive attitudes towards e-learning

than those who have not. On the other hand, having e-mail account was found not to play a role in forming the attitudes of the academic staff towards e-learning. Moreover, in their survey related to skills in ICT and the attitude of faculty and students towards e-learning and educational technologies in Serres in Greece, Vrana *et al.* (2006, p.7) found that there was a general positive opinion of e-learning and educational technologies, and a positive disposition of faculty to use educational technologies and a relatively good level of aptitude in ICT.

In Arabic and Saudi research, a number of problems relating to academic staff and e-learning have been reported. At the University of Bahrain, the results of Jamlan's (2004) study, which sought the opinions of 30 of 49 male and female faculty members of the College of Education about e-learning and how they integrate e-learning into their teaching activities, suggested that they have positive attitudes towards e-learning and thus are willing to implement it. Abu Qudais *et al.* (2010) surveyed 226 respondents to determine the main factors affecting the attitudes of senior academic staff in Jordanian universities towards using information and communication technology in their teaching. They found that senior academic staff had highly positive attitudes towards e-learning (17 of 23 items in the survey questionnaire) as they believe that using technology in teaching is enjoyable and stimulating. Al-Kahtani *et al.* (2006) studied both attitudes and actual patterns of usage of the Internet by female academic staff in four Saudi universities. They interviewed 24 female academic staff (science, humanities and religion department) from KSU, Mohammed Bin Saud Islamic University, PSU and Saudi Arabia's Girls College. The findings show that although the majority of the female academic staff have positive attitudes towards the Internet, their attitudes towards the use of the Internet in teaching may be impacted by the subject area that a member teaches. For example, the majority of the academic staff in the Science Faculty perceived the Internet positively. However, the relationship was not entirely

straightforward. While all the users were positive, some of the non-users were also positive. In the Religious Studies Faculty, the Internet non-users had negative attitudes towards the Internet and the users may have had either positive or negative attitudes towards the Internet. Hussein (2011) has provided a descriptive analysis of the attitudes of the academic staff of six Saudi universities, KFU, Umm Al Qura University (UQU), Taibah University, Qassim University, Princess Nora University and Jazan University toward using Learning Management System (JUSUR). He concludes that they are extremely aware of the importance of e-learning and that this results in an increase of their use of Learning Management System and deduces that this increase shows positive attitudes toward Learning Management System (Hussein, 2011). Similarly positive attitudes were found in Saudi Arabia by Al Matrafi (2008) in his study to investigate the extent of the current use of the Internet by academic staff in their teaching of natural sciences in Saudi universities. For this purpose and others, he administered a survey to academic staff from science faculties in eleven Saudi universities. He found that there were positive attitudes toward current use of the Internet and that academic teaching staff are highly aware of the importance of the Internet in teaching.

### **2.2.2. Lack of Time**

Lack of time is another key concern or factor that disables e-learning implementation. Many researchers, such as Haywood *et al.* (2000); Newton (2003); McKenzie *et al.* (2000); Betts (1998); Alexander (2001), Almuqayteeb (2009) have emphasised this factor and discussed it in relation to a number of different aspects. For example, Vrasidas (2004) mentions that lack of time as one of the most important obstacles that plays a major role in disabling teaching online since he claims that educators do not have time for planning or designing online teaching. Newton (2003) agrees with Vrasidas (2004) in believing that academic staff face difficulties in allocating time to develop, evaluate and update learning resources. Also, Bolliger and

Wasilik (2009) in an online survey of 102 academic staff at a small research university in the USA to investigate the factors influencing faculty satisfaction with online teaching and learning in higher education showed that 59.4% of participants report that teaching an online course means higher workload comparing with the time needed to teach such a course face-to-face.

Newton (2003) deals with some of the issues that are viewed as being significant barriers to e-learning. Allocating free time for training is mentioned as an important problem. According to Newton (2003) providing academic staff with necessary and sufficient training is not enough. Badage *et al.* (2005) find that one of the marked reasons that prevent the academic staff of the University of Leicester from using Blackboard is that they have no time to learn new features. Moreover, the results of a qualitative study of factors influencing the integration of educational technology and ICT by academic staff at the University of Southern Queensland (USQ) show that lack of time was a major factor inhibiting the development of e-learning environments (Birch and Burnett 2009). The academic staff in this study reported that "this issue of lack of time was unpacked to reveal that time is required from conceptualisation through to revision including time for thinking, researching, strategising, planning, learning about and coming to terms with the required technology, training, developing, editing, updating and maintenance"(Birch and Burnett, 2009, p.128).

Many Saudi studies agree with the findings of the international studies and conclude that academic staff do not have sufficient time for training and preparation of e-learning. Albalawi (2007) explored the critical factors relating to the implementation of web-based instruction at three Saudi universities, finding that academic staff have a significant lack of time to develop it. Also, Ziyadah (2012) studied the attitudes of Saudi women towards distance learning in higher education in five Saudi universities (KAU, Princess Nora University, Majmaah University, KKU, KFU). The Saudi female

faculty, administrators, and graduate assistants, who participated in his study, report that the lack of release time (52.7%) was one of the factors that strongly influenced decisions about using online instruction. Almalki (2011) carried out a study to explore the experiences and opinions of the instructors and students at UQU regarding teaching websites that they used as a supplement to attendance at lectures. His study found that lack of time to develop online resources was an important issue that prevented faculty members from taking advantage of e-learning in their curriculum delivery.

In addition, providing adequate time to participate in training programmes is highly required. At Imam University in Saudi Arabia, having too many responsibilities is reported as one of the key problems that reduce training opportunities (Alharbi, 2002). Also, in her examination of attitudes of female faculty toward the use of computer technologies and the barriers that limited their use of technologies in girls' colleges in KFU (Dammam and Jubail), Saudi Arabia, Almuqayteeb (2009) found that the most significant barriers to the use of computer technologies in their teaching were lack of time for learning about computer technologies, and increased workload for instructors. Alhazzani (2013) studied information technology challenges facing higher education institutions from the point of view of academic and administrative leadership at KSU. She surveyed with 57 academic staff from KSU and her findings reveal a lack of opportunities to attend seminars and conferences related to information about e-learning (71.4%).

### **2.2.3. Lack of Support**

Lack of support could be one of the most difficult challenges that prevent e-learning adoption in many universities around the world. Lack of support in this study relates to the issues of infrastructure, technical and administrative support. Soong *et al.* (2001) carried out a multiple case study to evaluate hypotheses regarding the critical success factors for online course resources in a tertiary setting. They assert that



achieving e-learning goals is highly influenced by the availability of technical advice and support, while the results of Panda and Mishra's (2007) study show that lack of technical support is a fourth important barrier to e-learning. Similarly, Osika *et al.* (2009) conducted a survey of academic staff at Chicago State University to investigate the factors influencing academic staff use of technology in online instruction. Their data show that "The lack of technological support from the university further compounds this issue. If faculty cannot resolve technological issues in real time, the delivery of online course content becomes more difficult and less attractive to faculty" (Osika *et al.*, 2009, p. 11). A survey was carried out by Haywood *et al.* (2000) to investigate the views of senior managers, academic staff and experts on learning technology in Scottish Higher Education. It indicates some of the significant barriers to using technology by academic staff, namely lack of time, infrastructure, software and training. Also, Chitanana *et al.* (2008) found in their study to determine the opportunities and challenges that hinder the successful adoption of e-learning technology in Zimbabwe universities, that academic staff were unable to adopt e-learning in their teaching because they faced several barriers such as lack of access to computer laboratories with students (77%), problems with Internet access (69%), lack of computer access in the lecturers' offices (51%), lack of technical support (51%) and lack of administrative support/initiative at Faculty level (52%).

The problem of lack of support is reported by many Arabic and Saudi studies. Selim's study (2007) aimed to specify critical success factors for e-learning. He believes that access to technical support is one of the essential factors for successful e-learning. Utilising IT tools in the delivery of e-learning courses is crucial and important to success and student acceptance of e-learning (Selim, 2007). He believes that this requires the IT infrastructure to be rich, reliable and capable of providing the e-learning courses with the necessary tools. The infrastructure in the Saudi Arabian universities is

weak and unreliable. This is confirmed by a study carried out by Al-Jarf (2007) in 14 universities in Saudi Arabia as she finds that:

All the subjects reported that the technological infrastructure at their universities cannot accommodate all the students and faculty at their universities in terms of computer labs and terminals available and Internet access. Universities also have a limited bandwidth. Computers are down and the Internet is slow very often. Many departments do not have computer labs. When available, those labs are not equipped with sufficient numbers of computers, software or Internet connections. (p. 4)

Involvement in online instruction could be hindered because of lack of administrative support (Alsadoon, 2009). Alharbi (2002) at Imam University pointed to a lack of technical and administrative support as key barriers preventing the implementation of online courses at the university. Selim (2007, p. 399) adds that, “University administration support to e-learning is essential for its success”. Alshehri (2005), in his study to assess faculty attitudes about the significant factors that facilitate the implementation of online courses at the Institute of Public Administration in Saudi Arabia, emphasised the availability of administrative and technical support as one of the factors that contribute to the smooth progress of implementing online instruction. The technical support in the Saudi Arabian universities was limited. An investigation, carried out by Al-Jarf (2007) of the e-integration challenges for rectors and deans in higher education institutions in Saudi Arabia, showed that:

With the exception of KAU, Saudi state universities do not have an online learning Center. Online courses designers and content developers are very few.... Due to the bureaucratic system, universities usually have one central technical support centre with a limited number of staff and it cannot deal, manage, solve problems and provide technical support to large numbers of faculty and student users. In addition technical support engineers are not available for online courses. (pp. 4-5).

Also, the study by Almuqayteeb (2009) found that the most significant barriers to the use of computer technologies in teaching were lack of technical support, lack of equipment and infrastructure, lack of administrative support, lack of software, lack of designed interaction activities between instructors and students, and lack of collegial support. In the six years since the Al-Jarf (2007) study things do not appear to have improved. For example, the study by Ziyadah (2012) showed that Saudi female faculty, administrators, and graduate assistants find that factors that highly influenced the use of online instruction were lack of technical support (including infrastructure) provided by the institution (55.9%), lack of administrative support, which included lack of recognition or reward (53.1%), lack of support and encouragement from institution administrators (51.7%) and lack of merit pay (49.9%). The majority of academic and administrative leadership at KSU, who participated in Alhazzani's (2013) research, reported that lack of technical support (74.2%), lack of infrastructure support (67.8%), and lack of administrative support (75%) were major obstacles and challenges that prevented them from integrating information technology into higher education.

#### **2.2.4. Lack of Training**

Lack of training in using e-learning is cited as one of the most profound obstacles to the integration of technology in teaching. Lack of training in this study relates to the issues of knowledge, and technological and pedagogical training. This barrier was ranked as second top barrier to successful implementation of e-learning by faculty members in Indira Gandhi National Open University (Panda and Mishra, 2007), while the study carried out by Pajo and Wallace (2001) reported it as being among the top three barriers that affect e-learning adoption. The study by Birch and Burnett (2009,p.124) found that "Lack of tailored and specialised training for developing e-learning formats, particularly for academics who are "slow learners" and those who

experience difficulty with new technology, was raised as another key barrier". Mitchell and Geva-May (2009) also carried out a study of five of the six university-colleges in British Columbia and Canada to explore the attitudes affecting online learning implementation by faculty and administrators in institutions of higher education. They used questionnaires (n=382), interviews (n=39), and content analysis of provincial and institutional policy documents. The study found that 70% of participants report that they had training in technological skills. However, they requested that more attention be paid to instructional design so they can become more effective in online learning. In her study of the practical recommendations for improving continuing professional development in the use of ICT in higher education, Littlejohn (2002, p. 167) stresses the "need to offer staff opportunities to gain the skills and knowledge required to incorporate new teaching methods within their course design." Also, Littlejohn (2002) recommends providing a good balance between the pedagogical and practical skills required for online teaching.

Many researchers have paid attention to the adoption of e-learning in Saudi universities and the factors that influence that adoption. They find that lack of knowledge and lack of skills training are among the most significant obstacles playing a key role in inhibiting the use of e-learning in universities (Al-Khabra, 2003; Al-Far, 2004; Al-Fulih, 2002; Al-Muhaisin, 2000; Al-Sharhan, 2002; Al-Jarf, 2007; Alshehri, 2005; Alaugab, 2007; Al-Sarrani, 2010; Alnajjar, 2001; Asiri *et al.*, 2012; Al-Kahtani *et al.*, 2006; Alhazzani, 2013; Hussein, 2011). For instance, in her investigation of e-integration challenges for rectors and deans in higher education institutions in Saudi Arabia, Al-Jarf (2007) indicates that interviews with university vice-presidents, college deans, vice deans and department heads show that using online courses is negatively influenced by the academic staff's lack of training in online instruction. Almuqayteeb (2009) found that lack of effective training was a second barrier that significantly

limited faculty members' use of technology. She noticed that the female faculty member's effective use of technology in their teaching was limited to the use of PowerPoint presentations. Also, Almuqayteeb's (2009, p.174) recommendation about training programmes provided by KFU was that "training workshops should not only focus on increasing computer skills, but also demonstrate how female faculty members could integrate different computer technologies into their teaching". The study by Ziyadah (2012) shows that 58.6% of Saudi female faculty, administrators, and graduate assistants lacked training in distance education provided by the institution. The female faculty, administrators and graduate assistants identified their training preferences as "online course design, technical training, software training, teaching and interactive tools training, how to present lectures to students, how to use facilities to create a course in Learning Management System, and how to use virtual classrooms, Centra program training, graphic design training, computer assisted language learning, and distance education system training" (Ziyadah, 2012, p.155). Al-Erieni's (1999) study of the attitudes of academic staff in KSU towards the development and implementation of telecommunication based distance learning also asserts that, in order to encourage the implementation of distance learning, faculty members need to learn the new skills that are required for that type of education. A descriptive study was conducted by Alghonaim (2005) to explore administrators' and instructors' attitudes towards the implementation of online instruction in Buraidah College of Technology (Saudi Arabia). He revealed the barriers that prevent the implementation of online instruction, and indicated that one of the two major barriers found is a lack of helpful training in online teaching. Alshehri (2005) found that a lack of knowledge and skills is the main obstacle limiting the implementation of online courses at the Institute of Public Administration in Saudi Arabia. Moreover, Alhazzani's (2013) study found a lack of awareness of the concept of information technology and its broad uses in different fields

(82.2%). This of course points to a lack of training that would qualify academic staff to use information technology (87.1%).

Finding the most appropriate approach to designing and delivering e-learning training programmes is essential. In any training programme it could be suggested that academic staff should use the same e-learning environment as their prospective students. For example, Alsadoon (2009,p.13) believes that using online training is the best approach to train academic staff in online teaching. She claims that “online training allows faculty to experience the role of an online learner which helps them to understand their role in online instruction”. Moreover, Alhbabí (2013) in the 3<sup>rd</sup> International Conference for e-learning and Distance Education, reviews an experience of designing a training package namely “E-learning skills in KKU”. He agreed with Alsadoon (2009) in believing that in this training package, it will be made possible for the academic staff to try out the role of the student and to live the experience of all the details so that they will have a full perspective on e-learning, and recognise the needs of the student during the application of e-learning; they will also be able to evaluate this experience.

These studies obviously show that there is a gap in the training of academic staff at Saudi universities when it comes to achieving the most effective use of e-learning. There is, however, a lack of information regarding what constitutes an effective or successful e-learning training programme in Saudi Arabia universities, or the process by which an e-learning training programme might be designed. The present research addresses this gap at the KFU, where the researcher works. The study will involve designing an e-learning training programme. Aldakel’s (2003) argues that teachers’ current needs, time and preferences should be taken into account when designing a training programme. Also, in Alhbabí’s (2013) study, the training package, based on “Quality Matters” was built in five stages, the first one was to examine the training

needs of the academic staff in KKU. Moreover, Alhawiti (2011), in his study to examine faculty perceptions about attributes and barriers impacting diffusion of online education at two Saudi universities, believes that when designing an online staff development package, trainers should identify academic staff needs and expectations. He recommended that, "higher education institutions build their own training programs based on a detailed assessment for their faculty members' instructional needs and expectations. This requires a needs analysis before launching any training programs" (Alhawiti, 2011, p 211). Based on the above research findings, the design of the training at KFUPM will be informed by the current skills and future needs of the academic staff. Therefore, this study is interested in addressing this gap or lack of training for academic staff in e-learning technology skills and pedagogy, by designing, implementing and evaluating a training package to accommodate their needs.

## **2.3. Motivations for using E-learning**

Despite all the barriers that limit academic staff's use of e-learning, there are some factors that encourage them to employ it with their students. Such factors may be called motivators. In the following sections some practical motivators and some pedagogical motivators will be reviewed.

### **2.3.1. Practical motivators**

#### ***2.3.1.1. Using e-learning saves time***

In contrast with the argument that time acts as a barrier that limits using e-learning, there is a claim that using e-learning could save academics staff's time. Almalki's (2011) study of blended learning in higher education in Saudi Arabia considered nine instructors and 504 students from UQU and indicated that the instructors who developed and maintained their websites could use their lecture time

effectively. This was "through providing all course related materials on their websites" (p.139). By accessing course materials before the lecture, students could come to the sessions prepared to participate in the discussion. Therefore, the instructor could save the amount of lecture time devoted to information dissemination and increase the amount given to student interaction. Alaugab (2007) conducted a study on the benefits of and the barriers to the adoption of online instruction through the perceptions of female faculty and students in two Saudi universities. The analysis of the advantages that might encourage the faculty to adopt online instruction indicated that the participants nominated the factor of 'online instruction saves the time and trouble of getting to and from the university' as one of the top four among the other advantages of online instruction that the study revealed. The study by Ziyadah (2012), who investigated Saudi female faculty attitudes toward distance learning in higher education, found that Saudi female faculty, administrators, and graduate assistants indicated that among the encouraging factors that motivated them to use distance learning was the fact that using distance education saved time by reducing their teaching loads and increasing the time released for other tasks. Jamlan (2004) reported the academic staff's attitudes towards introducing e-learning at the University of Bahrain. He found that the academic staff perceived e-learning positively and believed that it could save time and effort both for themselves and for their students.

#### ***2.3.1.2. E-Learning brings greater flexibility***

There is much agreement that offering flexible learning is one of the key characteristics of e-learning. More than half (65.3%) of the Saudi female faculty, administrators and graduate assistants who participated in a study by Ziyadah (2012) agreed that having greater course flexibility for students was one of the motivating factors that strongly influenced their decisions about using online instruction. Panda and Mishra (2007) provided a descriptive analysis of the attitude of academic staff of the



Indira Gandhi National Open University towards e-learning. They concluded that e-learning increases the flexibility of teaching and learning. A descriptive study was conducted by Alaugab (2007), to discover the perceptions of 300 Saudi female students and faculty of the benefits of and the barriers to the adoption of online instruction in two Saudi universities. The analysis of the perceived faculty benefits of using online instruction indicated that online instruction is more flexible than face-to-face learning. In Almalki's (2011) study, there was the majority of respondents agreed that the flexibility of accessing the course information provided by using instructor websites as a supplementary instructional resource was the greatest advantage. Alebaikan (2010) carried out a descriptive study that considered female undergraduate students and faculty members. The main focus of the study was to explore their perceptions of the advantages, the barriers and the future of using blended learning in Saudi higher education. For this purpose, she collected qualitative data through observations, diaries and reflective essays, interviews and focus groups. The analysis of the perceived advantages for the faculty showed that the potential flexibility available through blended learning was a desired advantage.

#### ***2.3.1.3. E-learning can make teaching/learning easier***

Easy teaching/learning offered by e-learning is another factor that has been much highlighted by researchers. According to Awalt (2003) the future of education needs e-learning because of its ability to provide a comfortable, easy, fast and affordable learning environment. O'Leary and Ramsden (2002) listed a number of ways in which a VLE enables the easy delivery of the online materials:

- Publish existing documents and presentations easily;
- Link to online sources of data, news services, records and publications;
- Link to online resources such as simulations and tutorials (p. 4).

Moreover, O'Leary and Ramsden (2002) reported a study conducted by Boardman and Antoniou (2002), who surveyed 15 academic staff and 131 students at the Department of Economics and Finance at the University of Durham to study their experience of using a VLE in their teaching and learning. It was found that the academic staff perceived the use of the VLE as an easy task. Similarly, the students agreed on the ease of its use to support face-to-face elements of the course. Al-Fadhli (2009) conducted a study of the factors that affect faculty attitudes towards and perceptions of e-learning in Kuwait University. The analysis indicated that the majority of respondents (52.3%) agreed that easing the process of teaching was one of four major advantages of e-learning in higher education, and 43.3% of the respondents believed that e-learning made the evaluation of students' work easier. Also, about 62% of the 198 academic staff of two Saudi universities, Taif University and Tabuk University, who responded to a study by Alhawiti (2011) agreed or strongly agreed that "Web-based distance education technologies were easy to use". Moreover, 60% of the participants agreed or strongly agreed that "the changes in teaching methodology necessary to use web-based distance education were easy to understand", while more than 42% of participants agreed or strongly agreed that these changes in teaching methodology would be easy for them to implement.

### **2.3.2. Pedagogical motivators**

#### ***2.3.2.1. E-learning improves communication with students***

Because of the large range of easy communication methods and tools offered by technology, students have become even more communicative with each other and with their lecturers. Similarly, the lecturers become more likely to communicate with their students. Web-based instruction could support communication between student and student, student and content, and student and instructor (Moore and Kearsley, 2005). In

his survey to examine male students' perceptions of the effectiveness of the e-learning experience in some Saudi universities, Algahtani (2011) found that the students agreed that the e-learning had increased their communication with other students (35%), and e-learning increased communication with their instructors (31%). Moreover, some students preferred to communicate with their instructors (36%) and with their classmates (46%) using e-learning tools compared to face-to-face. Panda and Mishra (2007), in their study of the motivators to successful implementation of e-learning by faculty members in Indira Gandhi National Open University found that the faculty members' use of e-learning improved communication between them and their students. According to Alaugab's (2007) study that explored Saudi female faculty and students' perceptions of the benefits of using online instruction in two Saudi universities, online instruction was found to have improved communication between instructors and students. This benefit was ranked third among all the other advantages of online instruction. In Almalki's (2011) study, the majority of students respondents agreed that the instructors' websites influenced their interactions by improved communication environment and enhanced interactions between them and their instructors. Moreover, he found that the majority of the instructors interviewed pointed out some benefits of using instructors' websites, such as:

- They provide a better communication environment that enables enriched communications with instructors
- They increase flexibility for female students to communicate with instructors,
- They enhance student-student communications
- They increase the linkage of practice to learning and
- Improve student preparation for lectures.

### ***2.3.2.2. E-Learning attracts and motivates students to learn***

E-learning can be very motivating for students. According to Shtat (2004), e-learning is characterised by making learning more enjoyable and motivating. Algahtani (2011) found that students are motivated to contact their instructors and peers by e-learning tools and enjoyed doing so more than they used and enjoyed traditional communication methods. They then felt encouraged and attracted to participate more frequently in discussion sessions. The participants indicated that they would take more e-courses because they really enjoyed e-learning and were encouraged to spend more time on learning. They, in addition, found “e-learning increased their motivation by meeting their needs, and expectations, and increasing their capacities to absorb learning” (Algahtani, 2011; p. 256). Asiri (2009) examined the attitudes of students towards e-learning in Arabic language courses at KFU in Saudi Arabia. The study showed that the students had a positive attitude toward e-learning. Moreover, the students pointed out that e-learning provides greater flexibility and an attractive learning experience, improved outcomes, and improved the quality and attractiveness of content. Almalki (2011) moreover, added that the students found online materials attractive and they could assist them to understand the topic. Albalawi (2007) investigated the critical factors related to the implementation of web-based instruction by higher-education faculties at three universities in Saudi Arabia. Over 500 faculties participated in his study. He found that one of the factors that motivated a faculty to use e-learning with their students was that they would have the opportunity to work with more motivated students.

## **2.4.Theoretical Framework**

The design of the e-learning training package will be informed by learning theory in two particular ways: firstly by those learning theories that are commonly applied to e-learning training specifically and secondly by learning theories that are commonly

applied in e-learning generally. In both cases, an overarching learning theory that is commonly applied and discussed in both settings is constructivism.

Constructivist learning theory has emerged from the work of Piaget, Vygotsky, and Bruner (Lowenthal and Muth, 2008). All of them believe that learning is not something that exists in the physical world but it is something that each learner creates. Piaget (1972), Vygotsky (1978) and Bruner (1990) defined constructivism theory as the active process of constructing new knowledge based on a learner's previous experiences. Constructivism is an epistemology. It explains the nature of knowledge that is acquired through interaction between the learner's prior information and beliefs and the ideas, events, and activities that he experiences, rather than being acquired through imitation and repetition (rote learning) (Kroll and LaBoskey, 1996; Richardson, 1997). Brooks and Brooks (1995) note that constructivism does not treat students as passive students instead they are, with a constructivist approach, more respected not only as learners but also as human beings.

Broadly speaking, constructivism is perceived as "a philosophy of learning based on the premise that knowledge is constructed by the individual through his or her interactions with the environment" (Rovai, 2004, p.80). It includes attempts by learners to make sense of their experiences and environments (Vygotsky, 1978; Can, 2009) that need to be highly adapted to the participants (Gupta, 2006). It could be seen as a cognitive theory (Driscoll, 2000) that assumes that an individual's learning is an active mental building process (Stewart *et al.*, 2009) where knowledge can be derived from their experiences (Can, 2009). However, conflicting experiences are more difficult and it may take longer to manage the confusion so that the learning can make sense and be satisfactory (Perkins, 1991; Rovai, 2004).

### **2.4.1. Individual (Cognitive) Constructivism**

Constructivism is sometimes broken down into two similar but distinctive kinds of learning: individual (cognitive) constructivism and social constructivism (see for example, Mayes and DeFreitas, 2004). Individual constructivism focuses on how learners construct meaning and understanding through active discovery and exploration of the world around them. Social constructivism focuses on how learners construct meaning and understanding through dialogue and collaboration with others, sometimes as part of a community. Many authors talk about constructivism, but do not distinguish between cognitive or social constructivism. While there are many similarities between the two, there is an important difference. Therefore, the literature review will distinguish between them and discuss both in greater detail.

Two key theorists who have focused on how learners construct understanding through their experiences are Piaget (1970,1972,1976,1985) and Bruner (1960,1961,1966).

Piaget, a Swiss philosopher (1896–1980), argues that people structure their knowledge based upon their own experiences. Also, Piaget believes that knowledge is constructed in the mind of the learners. In individual constructivism theory, they are re-organizing their experiences and cognitive structures (Piaget, 1970). The most important ideas of Piaget's theory of constructivism are assimilation and accommodation (Cholewinski, 2009). Assimilation occurs when a new experience is fitted into an existing mental structure (Can, 2009; Piaget, 1972). Accommodation means modifying the existing schema according to the new experience (Can, 2009).

Bruner, was an American psychologist who was interested in the impact of culture on education. His theory of constructivism supports the belief that learning is an active process where individuals construct new concepts or ideas based upon their current or

past knowledge (Can, 2009; Overbaugh, 2004). He adds that this active process involves selecting information, deriving meaning from experience, creating hypotheses, and making decisions relying on a cognitive structure to do so (Overbaugh, 2004). In his book 'Toward a Theory of Instruction' (1966), Bruner states that a theory of instruction should address four major aspects: (1) predisposition towards learning, (2) the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, (3) the most effective sequences in which to present material, and (4) the nature and pacing of rewards and punishments (Bruner, 1966). In his more recent work, Bruner (1986, 1990, 1996) has expanded his theoretical framework to encompass the social and cultural aspects of learning.

From theories such as those proposed by Piaget and Bruner key principles can be distilled. For example, Hein (1991) and Simon (n.d.) outline some of the principles of individual constructivism that guide educators' thinking when they consider their role:

- Learning is an active process where individuals actively construct knowledge based on their previous experience.
- While the learning is in progress, students learn how to learn.
- Constructing new knowledge is a mental action. Although physical actions and experience are necessary for learning, they are not sufficient. Learning should involve mental activities as well as the physical ones.
- Language has an important role in the constructivism environment. Empirically, researchers refer to people talking to themselves while they learn. Therefore, learners make a conjunction between their prior information and the new knowledge, using language.

- Learning is a self-regulated process. Inborn characteristics and the external factors that affect learners have a key influence on individuals' learning rates.
- Motivation is a key component in learning. Personal motivations and desires significantly affect abilities and capacities to learn as well as what is learned.

#### ***2.4.1.1. Individual (Cognitive) Constructivism in E-learning in Higher Education***

The literature shows an important connection between the constructivist context and e-learning (Harman and Koochang, 2005; Hung and Nichani, 2001). Batson and Feinberg (2006, p.35) also, added that, "Successfully using cognitive constructivism in e-learning applications allows users uninhibited navigation for learning and multimedia interaction for feedback". Weegar and Pacis (2012) claim that the more online learning grows, the more constructivism is being required for implementing instructional technologies. According to Jonassen (2000), learning management systems like Blackboard and WebCT that are used in e-learning in higher education very often are cognitive tools that help students to be able to engage in meaningful learning. Moreover, he suggests that within the context of constructivism, "learners use such technologies as intellectual partners to (a) articulate what they know; (b) reflect on what they have learned; (c) support the internal negotiation of meaning making; (d) construct personal representations of meaning; and (e) support intentional, mindful thinking"(p.334). Nawaz (2012) also added that e-learning tools could play a major or minor role of supporting cognitive constructivist leaning through providing digital cognitive or adaptive tools or system. Paurelle (2003) argues that constructivism is the best pedagogy to fit with e-learning where it, (constructivism), has the ability to strengthen the medium and overcome its weaknesses. He outlines his arguments as below:



- In constructivist pedagogy, the learners are the centre of learning and in e-learning the learners are empowered to choose what, where and how to study and with whom.
- Constructivist learning is mainly based on individual experience; e-learning allows context-based and work-based learning.
- In constructivist learning, the learner as an active participant in their learning experience, and e-learning allows the learner to seek out information, making connections and building knowledge.

#### **2.4.2. Social Constructivism**

In e-learning in higher education social constructivism is one of the most commonly used theories (McConnell, 2005; Guldberg and Mackness, 2009; Gannon-Leary and Fontainha, 2007). Social constructivism is described as constructing knowledge through social interaction and active processes (Sung-Ong, 2007; Vygotsky, 1978; Jonassen, 2000). In social constructivism, learners are impacted by the environment around them including teachers, peers, friends, and society in general (Underhill, 2006). This section will give an overview of the historical development of social constructivism through its pioneering theorists including Vygotsky.

Vygotsky, the Soviet psychologist (1896-1934), emphasised the role of cultural and social contexts in learning (Woo and Reeves, 2007) as he asserted that learning is a socio-cultural construction and learners negotiate meaning through language (Vygotsky, 1978; Can, 2009). Can (2009) adds that Lev Vygotsky believed that individuals' learning and their development of concepts could not be fully understood away from the social and cultural context in which these concepts are embedded. Vygotsky argues that

one can begin by doing something socially (inter-mental) and then it can become individual as you internalise what you have learnt (intra-mental).

Any higher mental function was external and social before it was internal.... We can formulate the general genetic law of cultural development in the following way: Any function in the child's cultural development appears twice or on two planes.... It appears first between people as an intermental category, and then within the child as an intramental category (Vygotsky, 1960, p. 197-198).

Vygotsky's concept of "two planes" means the social or inter-mental plane and the personal, psychological or intra-mental plane. In the first plane (inter-mental), learners familiarise themselves with skills, ideas and language with the help of appropriate psychological tools. In the second process (intra-mental), learners begin internalising, understanding, and using new language, skills and ideas independently with no help (Vygotsky, 1981).

Vygotsky developed the concept of the ZPD in 1934. This mainly refers to the gap between what one knows (as determined by independent problem solving) and what one needs to know (as determined by what can be accomplished) with aid from or in collaboration with more capable peers (Thompson, 2001; Mayes and de Freitas, 2004; Vygotsky, 1978). In the ZPD, the movement from the inter-mental plane to the intra-mental plane explains learners' increasing control over learning behaviours and the environment (Kao, 2010).

Another concept that was developed by Vygotsky and usually appears when the ZPD is mentioned is that of 'scaffolding' (Van Der Stuyf, 2002); which refers to the support or the aid that an individual receives from the tutor or peers to help them to develop and get to the next stage (Raymond, 2000). It is an individualised temporary support, based on the learner's ZPD (Chang *et al.*, 2002) as the help or the instruction

provided in the scaffolding process is just beyond what the learner can do alone (Olson and Pratt, 2000). Mayes and de Freitas (2004) outline some characteristics of the effective scaffolder, including being sufficiently expert in the domain to judge individual learning needs, being adequately skilled as teachers to adjust dynamically and being able to continuously to switch between the novice's and expert's perspectives.

#### ***2.4.2.1. Social Constructivism in E-learning in Higher Education***

There is a strong and long history of social constructivism being applied as a teaching pedagogy when e-learning is used with university students to promote, critique and develop collaboration in online courses (Bonk and Dennen, 2003), to ensure learning among learners (Harman and Koohang, 2005) and to enhance active learning through knowledge building (Gagne *et al.*, 1992). Nawaz (2012, p 23) also added that, “Social constructivists explain the technology-adoption as a process of involving social groups into the innovation process where learning takes place based on the learners’ experiences, knowledge, habits, and preferences”. Rovai’s (2004: pp. 90-91) study of a constructivist approach to online college learning concludes: “An online course designed and delivered based on a constructivist epistemology can be highly effective and result in a satisfying distance learning experience”. Furthermore, constructivism has the potential to empower learners. Renner (2006) believes that second generation web applications (web 2.0), when used in a constructivist e-learning environment, open new frontiers for learner empowerment, control and engagement. This occurs because web 2.0 tools offer new possibilities for teachers and learners to work collaboratively in building a social constructivist learning environment, which empowers learners to realise their potential within vibrant online communities. Paurelle (2003) also adds that, since learning is perceived as a social experience by constructivism, technology helps students to communicate easily, regardless of barriers of time and place. Similarly, e-

learning, as stated earlier, enables students to choose the time, content, place and way that they prefer to learn.

Authentic learning pedagogy is found to fit very well with social constructivist theories. According to Herrington *et al.* (2004), attention to the use of social constructivism as a theoretical foundation for authentic tasks has recently increased. Stage *et al.* (1998) believe that authentic tasks are drawn from the principles of social constructivism that locates learning in a realistic context. Learning in realistic contexts is the basis for many a constructivist learning environment (Cognition and Technology Group at Vanderbilt, 1992). Moreover, Jonassen (1994) advocates including authentic tasks within a constructivist design model for the online learning environment.

Examples of the use of social constructivism in e-learning with student include Lefoe (1998) and Oliver and Herrington (2003). Lefoe (1998) reviewed an online learning package called 'Multimedia Design and Development ' offered to students in an Australian university. Her review showed how this package successfully met the design goals and metaphors of a constructivist learning environment designed by Duffy and Cunningham, 1996. The package was based on the social constructivist perspective. However, Lefoe did not distinguish between cognitive constructivism and social constructivism when describing the package, although there were many signs of the use of constructivism in a social context, such as working collaboratively and using dialogue via different web communication tools.

Multimedia Design and Development is a virtual web learning environment that was created by Kirkwood and Ross (1997). It offered two courses for distance postgraduate students at the USQ. Ross implemented the constructivist approach on the course in an authentic context, by simulating an industry project as the focus subject. Ross played the role of the Chief Executive Officer and the students became the

employees for the simulated company. They, the students, as employees in that company were required to accomplish some activities individually and collaboratively, including designing a homepage, presenting a product idea, designing a business plan and identifying personnel requirements for the company. The students as employees negotiated topics in groups. They presented their product ideas and participation in the business plan based on their own backgrounds. Since students were in different parts of the world, they used web communication tools including: chat rooms, discussion spaces, e-mail, and RealAudio to facilitate dialogue and collaborative work.

Oliver and Herrington (2003) explained how authentic tasks were associated with the social constructivism theory in an online learning package developed by the Holmesglen Institute of TAFE in Australia, named 'Youthwork'. This course comprised a number of units that needed approximately 40 hours each to complete. It was provided to students at Certificate Level IV in Community Services in Australia. The package comprised learning tasks, learning support and learning resources. The tasks were designed in a problem based learning (PBL) frame, and required students to produce artefacts or products. The quality of the product was the basis of assessment.

The content of the package assumed that the learner was working in a virtual workplace provided by the learning environment. The learning support provided to students was a kind of scaffolding process, where students were advised to follow a learning pathway; it included collaboration in the learning activities, the planned use of communication facilities, a supportive tutor role within the environment and provided learners with feedback and guidance on request with different forms of learning resources. These resources were developed especially for this virtual environment including: "manuals and documents describing company procedures and policies; tutorials and training packages such as might exist in the work place; magazines and reference materials in the area; virtual people that can be interviewed and spoken with;

workplace documents and templates; and sample documents and files as would be found in the workplace setting” (Oliver and Herrington, 2003, p. 17). According to Oliver and Herrington (2003), when the forms of activity and the engagement of learners in this setting are considered, it is clear that they actively construct most new elements of knowledge rather than passively absorbing information."

### **2.4.3. Strengths and Weaknesses of Constructivism**

In the past, the key role of the teacher was seen as being to transmit information to students who were passive listeners and fact receivers. This situation has been changed in the current redevelopment of all subject area curricula. Now learners are considered to have a central role in controlling the learning process. They reach new understandings by their active involvement in their learning (Gray, 1997). In constructivist environments, the knowledge construction process takes into account the learner's previous knowledge, beliefs and attitudes (Koohang *et al.*, 2009). Therefore, learners play a major role in the constructivism environment, where instruction is student-centred (Brumbaugh and Rock, 2006). While constructivism focuses on making learners active participants in their learning process, learners are also responsible for constructing their own knowledge and building on what they have already constructed in other contexts (Neo, 2007; Swayze, n.d.). They are involved in the decision-making process. Moreover, they determine when, what and how learning occurs (Brumbaugh and Rock, 2006). According to Swayze (n.d.), in constructivist classrooms, organizing information, exploring learning environments, conducting learning activities and monitoring learning are the responsibilities of the learners rather than the teacher. Learners decide how they achieve the desired learning outcomes. Thus, constructivism involves learners in “a process of knowledge construction and not knowledge absorption” (Neo, 2007, p.152).

In contrast to typical teaching models that depend on direct instruction, teachers play a supporting role in the constructivist environment. They should focus on depth of understanding and not on delivering the content (Iran-Nejad, 1995). Brooks and Brooks (1999) discuss the constructivist teacher's roles. They state that a constructivist teacher accepts and encourages autonomy and initiatives from learners. Further, teachers give students more opportunity to share and discuss their understandings of a concept, before knowing the teacher's views. Students are allocated sufficient time after a question is posed in order to construct relationships and create metaphors. Brooks and Brooks (1999) assert that teachers should seek and encourage initial responses from students. From the above, it is obvious that the teacher's main role is to guide, support, help and facilitate students during their learning progress.

Many researchers disagree with constructivism, for many reasons. Merrill (1996) believes that constructivist learners do not necessarily form abstract concepts and that knowledge and skills are not always transferred to new situations. Further, Martinez (n.d.) adds that constructing new knowledge on prior information could be very difficult for students with poor short or long-term memory skills. Because constructivism is mainly based on previous personal experiences, and as not all learners have the same level of exposure to experiences, there will be many different schemas (Martinez, n.d.). Grizzle (2004) claims that constructivism is very time consuming. Many different interpretations can be achieved by different learners, therefore more burden is put on teachers, who act as facilitators, in order to ensure that all learners achieve the correct understanding (Martinez, n.d.).

#### **2.4.4. Distinguishing Between Individual (Cognitive) and Social Constructivism**

Oliver *et al.* (2007) distinguish between cognitive and social constructivism. With a cognitive constructivist approach, learning experiences are individual. Learning occurs through active construction of ideas and the building of ideas through exploration, experimentation, feedback and adaptation. With a social constructivist approach, learning experiences are social and learning occurs through group and collaborative activity, supported by dialogue. Smith and Ragan (1999) outline the key assumptions of both cognitive and social constructivism. According to them, cognitive constructivism believes that:

- Knowledge is constructed from experience;
- Learning results from a personal interpretation of knowledge;
- Learning is an active process in which meaning is developed on the basis of experience.

Where the social constructivism believes:

- Learning is collaborative with meaning negotiated from multiple perspectives.

Perera (2011) has published a sliding scale that compares constructivism, social constructivism, and situated cognition. For the purpose of this study the similarities and differences between constructivism and social constructivism only will be reviewed as Perera (2011) has done. By comparing between the two types of constructivism, cognitive and social, it can be observed that they have some similarities and differences. Both cognitive constructivism and social constructivism agree that human beings create meaning from their own experiences with the world. However, the focus in social constructivism is on learning as a collaborative process in which knowledge is co-constructed through a process of social interaction. Another, similarity between these two theories is that they agree on the importance of the environment where learning



occurs through the interaction with the environment. However, the nature of this interaction with the environment is different for each type of constructivism. In cognitive constructivism, the interaction between learner and the environment is a means of creating knowledge. In social constructivism, environment includes other learners who have different experiences from different cultural contexts; therefore, the interaction with environment here refers to the interaction with others in the group of learners who create knowledge together. In addition, cognitive constructivists perceive the ‘transfer’ aspect as “the enhancement of current knowledge by the individual based on prior experience” (Perera, 2011, paragraph 7). In social constructivism the ‘transfer’ aspect is considered as the enhancement of current knowledge which is a negotiated or agreed process between the members of the group of learners. Finally, both cognitive constructivism and social constructivism agree that the role of the teacher in the learning process is as a facilitator which means that the teacher does not transfer knowledge to learners (Perera, 2011) but he or she creates a suitable environment for students to construct knowledge, whether individually or collaboratively.

Both cognitive and social constructivism will be used to underpin the design of the proposed training package. This will be explained and illustrated further in chapter 5.

## **2.5. Summary**

This chapter has provided a review of the literature related to the field of the current study, including the advantages of applying e-learning and the barriers that inhibit it have been discussed. The review of the literature has also stressed constructivism as the theory that underpins the experimental training package. The next chapter will show the collection methods that were used to obtain data for the first phase of the study.

# **Chapter 3:**

# **Methodology of**

# **Phase 1**

### **3. Methodology for Phase 1**

#### **3.1. Introduction**

This chapter will address the research design and methodology of phase one used in this study. The rationale of the research methodology, data collection tools, piloting, sampling and recruitment, sample of phase one, ethics and data analysis procedures which have been used in phase one will be presented in more detail. The purpose of this study was to design a training programme to meet the technological and pedagogical needs of academic staff in the Faculty of Education at KFU, Saudi Arabia. This purpose was clearly represented in the following main question:

- What are the e-learning training needs of the academic staff of the Faculty of Education in KFU and how can these needs be met by a training package?

The research employs a qualitative design to develop e-learning training in one Saudi university (KFU) in two phases. Firstly, some qualitative and quantitative data relating to the e-learning facilities available at KFU, the current status of e-learning regarding skills, usage and perceived needs, were gathered by questionnaire and semi-structured interviews with academic staff at KFU. The data from phase one answer the first sub- question: “What are the e-learning training needs of academic staff in the Faculty of Education at KFU?”

- a) What e-learning facilities are available for academic staff in the Faculty of Education at the university? (Chapter 4)
- b) What current e-learning skills do academic staff already have and how are they using e-learning with their students? (Chapter 4)
- c) What factors either help or hinder the use of e-learning by academic staff? (Chapter 4)
- d) What are the e-learning training needs and preferences of academic staff? (Chapter 4)

Secondly, based on the data collected in the first phase, a training package was developed, implemented, and evaluated in an attempt to answer the second sub-question, which is: “How can the e-learning training needs of the academic staff in the Faculty of Education at KFU be effectively addressed?”

- a) How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package? (Chapter 5)
- b) How might e-learning theories and models inform the key design features and characteristics of an e-learning training package? (Chapter 5)
- c) What influence does engaging an e-learning training package have on the practice of academic staff at KFU? (Chapter 7)
- d) How do academic staff respond to the design characteristics of the e-learning package? (Chapter 7)

Chapters five and six will discuss the research design and methodology of phase two of this study.

### **3.2. Research approach**

The research approach was selected according to the nature of the research questions. This study’s questions are explorative and descriptive in nature. Questions such as these lend themselves to a qualitative survey paradigm. Fink (2006; p.1) defines survey methods as "a system for collecting information to describe, compare, or explain knowledge, attitudes, and behaviour". It is a non-experimental descriptive research method (Palmquist, 1999) that is usually used “generally, to describe what exists, in what amount, and in what context” (Isaac and Michael, 1997; p. 136). The survey is a very popular method for examining the quantitative relationships among variables (Kraemer, 1991). Kraemer (1991) adds that the survey research approach allows researchers to elicit subjective data from respondents.

### **3.3. Data collection instruments**

#### **3.3.1. Questionnaire**

Questionnaires “are the printed sets of questions to be answered by respondents, either through face-to-face interviews or self-completion, as a tested, structured, clearly presented and systematic means of collecting data (mainly in the quantitative methods tradition)” (Payne and Payne, 2004; p.186). A questionnaire is a primary data collection tool, which usually contains a predetermined set of questions that participants are asked to answer (Gray, 2004). Questionnaires are widely used in the business and education fields. They are often structured, so that all participants have the same sequence of questions (McNeill and Chapman, 2005). The body of a questionnaire can comprise open-ended questions or closed questions (Gray, 2004). A researcher can combine the two types of questions in the same questionnaire. This can help to increase response rates (Channell, 1985). Open-ended questions require subjects to answer using their own words (Dawson, 2007). They enable respondents to explain and qualify their responses freely using their own terms (Cohen *et al.*, 2007). Such questions “often begin with words such as ‘How’, ‘Why’, ‘What’, etc” (Gray, 2004: p. 194). Open-ended questions provide opportunities for respondents to speak their mind; therefore, new issues may be raised (Dawson, 2007).

In closed questions, respondents select a response from a set of pre-designed options (Williams, 2003). The pre-designed replies include (yes/no), multiple-choice responses or selection of a number that represents strength of feeling or attitude (Gray, 2004). Compared with open-ended questions, closed questions are easier and quicker to answer, as not much writing is needed (Oppenheim, 1992). This allows space to ask more questions in the same length of time. Because closed questions are pre-designed, they can often be pre-coded and accordingly are very easy and quick to analyse

(Oppenheim, 1992; Neuman, 2006). However, closed questions can lead to researcher bias, because the fixed category of responses can restrict respondents' freedom (Oppenheim, 1992). Neuman (2006) adds that, when closed questions are used, there is a possibility of receiving answers that respondents are not sure about. To avoid such an issue in the questionnaire designed for this study, the majority of the closed- questions had an additional option called 'Other, please specify' that allowed the participants to express their opinions in their own words.

Questionnaires have several characteristics that result in their frequent use as primary data collection tools. For the purpose of this study, it was decided to use the questionnaire instrument, because only a limited time (three months) was available for the whole data collection process, and it was necessary to collect data from quite a large number of academic staff members. According to Sax (1979) and Gray (2004), questionnaires are economical and they can be sent to a huge number of participants at low cost. Sax (1979) and Gray (2004) also add that questionnaires save not only money; they also save time, as researchers can send questionnaires to many respondents anywhere at the same time. The questionnaire allowed very busy academic staff to complete it at a suitable time and place, even completing on several occasions, which could tend to increase the return rate. Gray (2004) states another advantage of a questionnaire is that it offers participants flexibility to complete at their convenience (Gray, 2004). The study required high anonymity, that could be offered by using a questionnaire (Gray, 2004), to help highly educated academic staff to be straightforward and less embarrassed when filling in questions about lack of knowledge and training. The questionnaire made the analysis process easier since it was very easy to code the pre-designed questions included in it. According to Dawson (2007), questionnaires are easy and quick to code.

For all the advantages that the questionnaire instrument provided, there were also some problems. For example, it was difficult to guarantee that participants would certainly complete the questionnaire, which would affect the return rate even if they were administered in person. According to Corbetta (2003), questionnaire return rates are often below fifty per cent. In an attempt to resolve this problem, an encouragement letter from the dean of the Faculty of Education was distributed to all heads of departments.

An additional justification for using questionnaires is that they are commonly used in the majority of educational research projects, especially those about e-learning, such as Albalawi (2007); Alsadoon (2009); Al-Erieni (1999); Al-Sharhan (2002); Alenezi (2012) and Alshehri, (2005). Firstly, Albalawi (2007), who studied the critical factors relating to the implementation of web-based instruction at three Saudi universities, asked the following questions:

1. What are the attitudes of the Saudi faculty toward web-based instruction?
2. How do the factors related to the barriers influence faculty participation in web-based instruction?
3. How do the factors related to incentives influence faculty participation in web-based instruction?

Secondly, the study by Alsadoon (2009), which highlighted the potential of implementing online professional training development for the faculty in the college of education at KSU, formulated the following research question:

- 1- What are the barriers that affect implementing online professional training development for online instruction at KSU?

Thirdly, Almuqayteeb (2009) examined the attitudes of female faculty members towards the use of computer technologies and the barriers that limit their use of technologies in women's colleges in KFU. They posed seven research questions, the most relevant of which were:

- 1- What are female faculty members' attitudes toward using computer technologies?
- 2- What types of computer technologies do female faculty members use?
- 3- To what extent do female faculty members use computer technologies for instructional purposes?
- 4- What are the barriers that limit female faculty members' use of computer technologies?

All three of the studies cited above, have used questionnaires to address similar research questions to those addressed in the current study, in particular the sub questions for the first research question (1a, 1b, and 1c).

#### ***3.3.1.1. Questionnaire design***

The questionnaire (see Appendices 3.5. and 3.6.) was developed in four sections, labelled as 'about you', 'e-learning facilities', 'current status' and 'training package'. In the following section the items in each section of the questionnaire will be described, including the rationale for asking each.

##### **- About you**

Seven questions were included in section one, to gain general personal and job information, such as department, teaching experience, age and nationality. The questions varied between multiple choice, dichotomous and questions requiring the use of a five-point scale. The data obtained from this section were mainly used to describe the participants.

##### **- E-learning facilities**

This section had a question that asked the participants to identify whether or not they had access to infrastructure support, administrative support, technical support', and 'e-learning support'. Moreover, the question investigated whether the participant used these facilities or not, if they did have access. To clarify these terms, a definition for each type of support was provided.



### **- Current Status**

This section had five questions. The first question introduced the participants to a number of e-learning tools, such as ‘discussion forum’, ‘e-mail’, and ‘learning management system’, and asked if they had the skills in using each one. The second question referred to the same set of tools. It required the participants to indicate whether or not they used these tools and to identify the reasons why they did not use them if they answered ‘No’. There was a pre-determined list of possible factors for the respondents to choose from such as ‘Lack of time’, ‘Lack of knowledge’, ‘Lack of training’, ‘Lack of infrastructure support’, ‘Lack of technical support’ and ‘Lack of administrative support’.

The third question explored the motivators that may encourage the participants to use e-learning in their practice. There was a pre-determined list of possible factors for the respondents to choose from. The fourth question was about the pedagogies that the participants use. Again there was a list of teaching strategies that the participants were able to choose from such as ‘Collaborative learning’ and ‘Lecturing’. The fifth, last, question in this section was about whether or not the use of e-learning could help the participants to develop their preferred teaching strategy with examples if the answer was ‘yes’, and reasons if not.

### **- Training package**

The last section in the questionnaire explored the participants’ preferences regarding a future e-learning training package that they may join regarding the e-learning system, content, time, duration, delivery, and method of learning. Finally a question was asked to recruit some of the respondents to the questionnaire participants in the follow up interviews.

### 3.3.2. Interviews

Interviews are a common data collection instrument when qualitative research is used (Gray, 2004). Cohen *et al.*, (2003) define the interview as a kind of conversation between two people initiated by the interviewer which aims to gain data from the interviewee about the research focus. There are three types of interview: structured, semi-structured and unstructured (Corbetta, 2003). Interviews might have restrictions in terms of the wording and sequence of questions (Nachmias and Nachmias, 1996). This type is called structured interviewing. While conducting this type of interview, a researcher could not add or remove any question to the questionnaire, even if deemed appropriate. This kind is the most useful if very specific data are sought (Patton, 2002). Another type of interview is the semi-structured interview where there should be a predetermined set of questions but the wording and sequence may differ from one interview to another. A researcher may initiate or delete one or more questions, if an issue was raised by an interviewee (Robson, 2000). The third type of interview is the fully unstructured interview. This is the most flexible type, allowing more freedom but the most difficult to code and analyse where each interview could be completely different from the others (Cohen *et al.*, 2007; Dawson, 2007).

In this study, a semi-structured interview was selected in order to provide the opportunity for some flexibility. For example, the interview should give answers to the research questions so all the participants must be asked a pre-identified question which would suggest that the structured interview should be used. On the other hand, it might be necessary to change the wording of a question, add or remove a question according to data gained from an interviewee, which would conflict with the structured interview. In other words, it was necessary to have a pre-identified list of questions as well as being flexible when conducting the interview. This balance could only be achieved using a semi-structured interview.

The interview was developed to capture the in-depth opinion of academic staff regarding the e-learning facilities available to them at KFU and other facilities that they might be unable to use for any reason; their beliefs about e-learning; the barriers and enablers of using e-learning, and the current e-learning skills and needs of staff. The interview also asked questions about any previous e-learning training experience features and impacts, future training preferences and participants' own aims for being involved in such a training package.

“Interviews are powerful in helping people make things explicit that have hitherto been implicit, and articulate their tacit perceptions, feelings and understandings” (Arksey and Knight, 1999). They are suitable for gaining data about a person's knowledge, values, preferences and attitudes (Cohen *et al.*, 2007). Interviews can achieve a higher response rate than the questionnaire (Adams and Schvaneveldt, 1985). According to Cohen *et al.* (2007), interviews can provide greater in-depth data than other data collection tools.

On the other hand, it was found that interviews had some potential drawbacks, such as susceptibility to interviewer bias, lack of anonymity and preferring not to respond to a certain question (Cohen *et al.*, 2007). In the present study anonymity was assured by not asking about interviewees' names at all; rather the interviewer attributed a code to each one at the beginning of the recording. The problem of preferring not to respond to one or more questions occurred in this study because some non-Saudi participants feared talking about the policy of the Faculty of Education for fear that it would entail negative consequences for their jobs. The interviewer reminded them of the consent form (See Appendices 3.3. and 3.4.), which indicated that the data gathered would be used only for research purposes, and would never affect their jobs in any way. Another solution was not to ask their nationality in the interview, so that, once the interview records were transcribed, there would be no clues as to nationality.

Interviews are widely used in educational research about e-learning (Al-Arfaj, 2001; Al-Sarrani, 2010; Al-Oteawi, 2001; Almalki, 2011). Firstly, Al-Sarrani (2010), who studied the concerns and professional development needs of science faculty members at Taibah University relating to adopting blended learning, asked the following questions:

- 1- What are science faculty members' concerns in adopting blended learning at Taibah University?
- 2- What are science faculty members' professional development needs in order to adopt blended learning at Taibah University?

Secondly, the study by Almalki (2011) to explore the experiences and opinions of the instructors and students at UQU regarding blended learning, formulated the following research questions:

- 1- How useful do instructors and their undergraduate students at UQU find blended learning environments?
- 2- How do instructors and their undergraduate students at UQU perceive the influence of blended learning on instructor and student interactions?
- 3- How do instructors and their undergraduate students at UQU perceive the influence of blended learning on the quality of learning?
- 4- How do instructors and their undergraduate students at UQU perceive the influence of blended learning on the quality of teaching?
- 5- How do male and female students differ in their perceptions of blended learning at UQU?
- 6- What are the factors that affect the adoption of blended learning at UQU?

The questions in both studies are similar to the present study and both answered these questions by means of interviews.

### ***3.3.1.1. Interviews design***

The interview consisted of nine main questions; some questions had several sub-questions (See Appendices 3.7. and 3.8.). As with the questionnaire, the focus of the interviews was exploring the experiences of the academic staff in KFU with using e-learning. The first question was about the interviewee's details including the department, position, teaching experience, highest academic degree, age, and

nationality. The second question was about the e-learning facilities that the interviewee currently used with their students. The question was interested in the details about these facilities in terms of their names, the reasons they were chosen to be used, the way they were used, and what the interviewee's experience of using them was.

Building on the questionnaire data about the availability and use of e-learning facilities, the interview sought more in-depth data about the e-learning facilities that are not available in KFU, what the staff know about e-learning and whether they wish to use it with their students. Moreover, the advantages and the disadvantages of using e-learning as perceived by the staff were investigated. The interview also focused on staff's future use of e-learning. They were asked whether or not they were willing to improve or increase their use of e-learning, with a justification for each answer. The interviewees were asked to identify the weak points that they thought they needed to work on to improve their use of e-learning and the barriers that they encountered that disabled or slowed down their effort to achieve this improvement.

Identifying the current e-learning skills that academic staff possessed was essential in the interview. Questions focused on how staff used these skills and whether there were any gaps in these skills. Previous training experiences were highlighted as well. The interview asked about the characteristics (type of training, delivery, content, time and duration) of such training packages that the interviewees attended in the past and how they would rate these packages. In addition, ideas about preferred characteristics of a future training package (design, length, content, and delivery) were sought, along with the expected influence or result of attending that future training package.

### 3.3.3. The rationale for the items in the data collection instruments

Table (3.1.) shows the alignment between the data collection tools and the first research sub-questions.

Research question	Questionnaire question(s)	Interview question(s)
1 (a)	8	2
1 (b)	9.1 9.2 10	6
1 (c)	9.2 9.3 11	3 4 5
1 (d)	12 13 14	7 8 9

Table 3.1.: Alignment between the data collection tools and the overall research questions

Section two in the questionnaire (question 8) and question 2 in the interview attempted to determine the e-learning facilities that were available to academic staff at KFU and to investigate their current usage of these facilities. This was intended to identify the exact shortfall in support to feed into the training package (infrastructure, technical and administrative support). Moreover, as discussed in chapter two, lack of access to e-learning facilities that include infrastructure support, technical support, and administrative support, is identified both in the Saudi and the international literature as one of the most common barriers to the use of e-learning (Haywood *et al.*, 2000; Vrasidas, 2004; Chitanana *et al.*, 2008; Al-Jarf, 2007; Ziyadah, 2012; Alhazzani, 2013; Alhawiti, 2011; Soong *et al.*, 2001; Panda and Mishra, 2007; Osika *et al.* 2009; Albeshi, 2011; Al-Shawi and Al-Wabil, 2012).

Questions 9.1, 9.2 and 10 of the questionnaire and question 6 in the interview investigated the KFU academic staff's current use of e-learning tools and the pedagogies that they employ. These questions were useful to explore the skills that the staff already had and would help to suggest the starting point of the training based on

the staff's current knowledge and skills. In the project reported by Banks *et al.* (2004), there was a problem with differences in the levels of confidence and experience of participants. They were different in their levels of experience and knowledge, ranging from novices to experts in dealing with specific online responsibilities, which forced Banks *et al.* to change their method of carrying out these responsibilities in the future. In addition, finding the current skills could detect the current usage. It is unlikely that the staff would use a skill that they had not mastered.

In Chapter two the strong negative relationship between the barriers to using e-learning and the level of using e-learning was discussed. For this reason the questionnaire and interview focused on facilitators and barriers with a view to the answers informing the design of the training package (questions 9.2, 9.3 and 11 in the questionnaire and questions 3, 4 and 5 in the interview).

Questions 12, 13, and 14 in the questionnaire and 7,8,9 in the interview were about the needs and preferences of staff relating to the future training package. The literature shows that collecting the needs of the intended trainees is crucial before designing any training (Yardy and Date-Huxtable, 2011; Taylor, 2003; Birch and Burnett, 2009; Irani and Telg, 2002; Oliver, 2004; McLean, 2005; Kou and Wan, 2009; Westerman and Barry, 2009). For example, almost all the participants (98%) in Al-Sarrani's (2010) study highlighted that the training programmes should meet their needs. Yardy and Date-Huxtable (2011) believe that the effectiveness of a staff development website for self-directed learning can be measured by the extent to which that website could address the staff's learning needs. Al-Asmar (2009) criticises the bodies which are responsible for providing the training programmes, in general, in Saudi universities. She claims that these training courses are usually not carefully planned and do not include any practical aspect. She further criticises the fact that information about academic staff's training needs is never sought; they are never

consulted about the content of the training that they will attend. Training courses are usually short. In addition, a proper evaluation, which measures the influence of the training on the trainees' practice is usually missing (Al-Asmar, 2009). Another important reason for seeking the needs and preferences regarding the training was that the academic staff are usually busy, so attending a training programme that does not fit in with their schedules and needs was something that was not likely to happen (see chapter 5 for more details).

### **3.4. Piloting**

In the beginning, the questionnaire and the interviews were prepared by in English. They were then translated into Arabic and sent to an Arabic language proof-reader in order to avoid any colloquial speech or slang phrases and ensure that the questionnaire items were clear and meaningful. Subsequently the tools were reviewed and revised, to ensure that the meaning of the items was not changed or lost during translation and the proof-reading process.

#### **3.4.1. Questionnaire**

The final version of the questionnaire was e-mailed to four members of academic staff at the Faculty of Education in KFU to seek feedback. Their feedback highlighted a need to include some meanings and definitions of terms in the questionnaire, such as e-learning, blended learning, online learning, infrastructure, administrative and technical support. Following the feedback from piloting this questionnaire, the meanings of certain terms were explained under the related item.

#### **3.4.2. Interview**

Interviews were conducted with two of the academic staff at the Faculty of Education in KFU. One of them was studying in the UK so was interviewed face-to-face. The feedback from this interviewee recommended that some educational terms



needed to be defined for greater clarity and to avoid any confusion. The other interview was conducted by e-mail because the interviewee was in Saudi Arabia. He was asked to e-mail back his responses to the interview questions. His feedback was about the length of the interview. He suggested shortening the questions as much as possible. Revising the interview questions and the research questions, it was very difficult to remove any question. This part of the piloting was very important, to determine how clear and direct the questions were, as the responses gained from this distance pilot interviewee were very helpful in indicating the kind of responses that might be expected.

### **3.5. Sample of phase 1**

#### **3.5.1. Sampling and recruitment**

##### ***3.5.1.1. Questionnaire***

This research was interested in all academic staff in the Faculty of Education at KFU in Al Ahsa. The total number of academic staff in the Faculty of Education was 146 according to the statistics obtained from the Dean of the Faculty in the first semester of the academic year 2010-2011 while the data collection process started in the second semester of the same year. A convenience sampling technique was used to recruit participants. Convenience sampling means that the participants were recruited because they are accessible and willing to participate (Teddlie and Yu, 2007).

According to Ross (2005; p.7), the convenience sample is sometimes called ‘accidental samples’ where it describes “a sample in which elements have been selected from the target population on the basis of their accessibility or convenience to the researcher”.

This technique was used for a number of reasons, such as the fact that a large number were abroad completing their Masters and/or Doctoral degrees. Another reason was the fact that there are seven different departments in the Faculty of Education located in different campuses, including the female section. Also, some members taught

compulsory subjects in other faculties, so they were not easy to reach. Another important reason was that the fact that females have separate campuses and there was difficulty in contacting them. Using a special coordinator for each department made collecting the data from female staff very slow. For all these reasons, and because of the time frame for data collection, convenience sampling was found to be the most suitable for the purposes of the study.

All the required permissions were obtained from the Dean of the Faculty of Education before starting the data collection. He suggested distributing the questionnaire to target staff in person. A total of 146 questionnaire forms were initially distributed to the head of each department who was responsible for handing the forms to the staff in his department. Some members of staff received the questionnaire forms from the researcher directly. Frustratingly only five questionnaires were returned. Support was sought from the dean of the faculty, who kindly wrote a letter to the heads of departments reminding them about the university's mission to support research, and encouraging them to participate voluntarily in the study. The questionnaires were redistributed to all the departments and re-sent to the female coordinators. A total of 146 questionnaires were distributed to all the academic staff in the seven departments in the Faculty of Education at KFU again. The biggest number ( $n=42$ ) of the staff was in the Department of Education and Psychology. As a result, the return rate from this department was the biggest. Although the Department of Curricula and Teaching Methods was the second largest department only six questionnaires were returned (see table 3.2.). A total of 69 completed questionnaire forms were returned from all departments, including the female section, out of 146 distributed. The overall response rate was 47.26%.

Department	Distributed		Returned	
	n	%	n	%
Education Technologies	13	8.9	8	11.6
Special Education	16	10.9	6	8.7
Kindergarten	13	8.9	12	17.4
Education and Psychology	42	28.8	22	31.9
Curricula and Teaching Methods	36	24.7	6	8.7
Educational Management	14	9.6	6	8.7
Physical Education	12	8.2	6	8.7
Not specified			3	4.3
Total	146		69	

Table 3.2: Questionnaire response rate

### **3.5.1.2. Interviews**

Two sampling techniques were used: purposive and convenience. The questionnaire had a question asking about willingness to participate in the interviews. However, because the return of the questionnaires was late and because of the time restrictions on the data collection process, it was not possible to wait for all the questionnaires to be returned before recruiting for the interview phase. An attempt was therefore made to contact some members of staff personally and ask them to participate. Another attempt was through asking the head of each department about which members of staff had been issued a questionnaire, so that they could be contacted directly. Another problem relating to gender was in interviews, where it was impossible to do face-to-face or phone interviews with female staff, due to cultural restrictions. Therefore, the number of interviews with female staff was very low.

### **3.5.2. Population and participants**

#### **3.5.2.1. Questionnaire**

A total of 69 academic staff participated in the questionnaire. Section one of the questionnaire included seven questions (1-7) to gain general personal and job information, namely: department, position, teaching experience, highest academic degree, gender, age and nationality.

Table (3.3.) shows the socio demographic data of the questionnaire participants. As stated above the majority (n=22) of the participants were from the Department of Education and Psychology. The lowest response rate (6) was from four departments: Special Education, Curricula and Teaching Methods, Educational Management, and Physical Education. Fifty-two of the participants had Doctorate degrees and worked as Assistant Professor, Associate Professor or Professor. The participants were generally experienced. They were almost equal in gender and most of them were between 41 and 45 years old (n=17). More than the half of the staff participating in the questionnaire were non-Saudi.

Question	n	%
1- Department:		
Education Technologies	8	11.6
Special Education	6	8.7
Kindergarten	12	17.4
Education and Psychology	22	31.9
Curricula and Teaching Methods	6	8.7
Educational Management	6	8.7
Physical Education	6	8.7
Not specified	3	4.3
2- Position:		
Teacher Assistant	7	10.1
Lecturer	8	11.6
Assistant Professor	38	55.1
Associate Professor	11	15.9
Professor	3	4.3
Not specified	2	2.9
3- Teaching Experience:		
1-5 years	18	26.1
6-10 years	13	18.8
11-15 years	17	24.6
More than 15 years	21	30.4
4- Highest academic		
Bachelor	4	5.4
Master	13	18.8
Doctorate	52	57.4
5- Gender:		
Male	34	49.3
Female	35	50.7
6- Range age:		
Under 25 years	1	1.4
26-30 years	7	10.1
31-35 years	8	11.6
36-40 years	15	21.7
41-45 years	17	24.6
46-50 years	15	21.7
51-55 years	3	4.3
Over 55 years	3	4.3
7- Nationality:		
Saudi	19	27.5
Non-Saudi	50	72.5

Table 3.3: Socio Demographic data of questionnaire participants

### **3.5.2.2. Interviews**

Only 17 interviews were conducted in total, including three interviews with female staff, by the end of the collection data journey (See table 3.4.). At the end of the questionnaire, there was a question about volunteering to participate in the interviews. Initially 20 staff indicated their willingness to take part in the interview but when they were followed up with the information sheet (Appendices 3.1. and 3.2.) and consent form, only 11 finally took part. Another six interviews were held using the convenience sampling technique. For the three female interviewees, a female member of academic staff from the ICT department at the Faculty of Education volunteered to act as the interviewer with them on behalf of the researcher.

Question	n	%
1- Department:		
Education Technologies	4	23.5
Special Education	1	5.9
Kindergarten	0	0.0
Education and Psychology	4	23.5
Curricula and Teaching Methods	3	17.6
Educational Management	1	5.9
Physical Education	4	23.5
2- Position:		
Teacher Assistant	0	0.0
Lecturer	3	17.6
Assistant Professor	8	47.0
Associate Professor	4	23.5
Professor	2	11.8
3- Teaching Experience:		
1-5 years	0	0.0
6-10 years	3	17.6
11-15 years	4	23.5
More than 15 years	10	58.8
4- Highest academic		
Bachelor	0	0.0
Master	3	17.6
Doctorate	14	82.4
5- Gender:		
Male	14	82.4
Female	3	17.6
6- Range age:		
Under 25 years	0	0.0
26-30 years	0	0.0
31-35 years	2	11.8
36-40 years	5	29.4
41-45 years	5	29.4
46-50 years	3	17.6
51-55 years	2	11.8
Over 55 years	0	0.0
7- Nationality:		
Saudi	3	17.6
Non-Saudi	14	82.4

Table 3.4: Socio Demographic data of Interviewees' participants

### **3.6. Ethics**

First of all ethical approval was gained from the School of Education at the University of Plymouth. Then approval was gained from the Deanship of the Faculty of Education at KFU to collect data from its academic staff (See Appendix 3.9.). Since the study was to be carried out in the work setting, there were some important ethical issues that needed to be considered, such as the anonymity and confidentiality of participants, to ensure that there would be no repercussions due to their participation in the study and the voice recordings of the interviews. To overcome these issues, an information sheet (see Appendices 3.1. and 3.2.) with a description of the nature of the study and its intended objectives were distributed, along with the questionnaire, which confirmed that the raw data gathered from the participants could not be accessed by KFU representatives. In addition, it would be treated confidentially for the purposes of the study, and only stored and archived in the School of Education at the University of Plymouth. The information sheet also informed the participants that their participation was entirely voluntary, and they had the right to withdraw from the study at any time without giving reasons and with no ill consequences. In order to ensure the anonymity of the participants, their names were not collected in the questionnaire or the interviews. There was a consent form (See Appendices 3.3. and 3.4.) also attached to the questionnaire that summarised the key ethical points to agree on.

Voice recording was a problem, not only with female members, but this was also true with male members. They were informed that voice recording was only a support for the researcher during most of the interviews and would not be used against the participant, but only for the purposes of the study. Only a few of the males agreed to record their interviews. For the three female interviewees, this process was more complicated, as they required a female to be present at the voice recording and transcription, so the female interviewer kindly offered to take responsibility for this.



### **3.7. Data analysis procedure**

The questionnaire was coded and analysed using SPSS software (Statistical Package for the Social Sciences) version 19. All the open-ended items of the questionnaire including a part of question 9.3 and question 11 in section three were coded and analysed by hand for more in depth data. The interviews were transcribed in Arabic and then translated into English. The analysis of the interviews was also conducted manually. The responses of the interviews were grouped under several themes relating to the research questions in preparation for applying thematic analysis.

Thematic analysis is an inductive method of analysis (Dawson, 2007) where themes are data-driven. It suits data from interviews and transcripts (Minichiello *et al.*, 2008). It does not require a specific theory to be applied (Alebaikan, 2010), which makes it very flexible. The process starts with categorising the important parts of the data under themes. Thematic analysis has been widely used in e-learning research (Alebaikan, 2010; Almalki, 2011; Olney, 2007; Algahtani, 2011).

### **3.8. Summary**

This chapter has explained the research design and methodology of phase one. The study used a qualitative approach employing a questionnaire and interview to answer the first question of the research. The chapter has justified the reasons for using the questionnaire and the interviews in this phase of the research. Each instrument's design and content have been described and justified. The sample of the study and the participants responding to each instrument have been reported. The piloting process, the ethical issues and the data analysis procedure have been explained. The next chapter will report the analysis and findings from the questionnaire and the interviews.

# **Chapter 4: Result of Phase 1**

## **4. Result of Phase 1**

### **4.1. Introduction**

This chapter will discuss the analysis of the data collected from phase one questionnaires and interviews. This phase of the research investigated the current e-learning use and future needs of academic staff in the Faculty of Education at KFU. It is the first stage of an attempt to meet these needs by developing and evaluating an e-learning training package. This aim is underpinned by the research questions:

- What are the e-learning training needs of academic staff in the Faculty of Education at KFU?
- How can the e-learning training needs of the academic staff in Faculty of Education at KFU be effectively addressed?

This chapter presents data analysis related to the first question and the data related to the second question will be the focus of chapter seven.

### **4.2. Analysing the e-learning training needs of academic staff in the faculty of education at KFU**

What are the e-learning training needs of academic staff in the Faculty of Education at KFU?

This question was divided into the four sub-questions below:

- What e-learning facilities are available for academic staff in the faculty of education at the university?
- What current e-learning skills do academic staff already have and how are they using e-learning with their students?
- What factors either help or hinder the use of e-learning by academic staff?
- What are the e-learning training needs and preferences of academic staff?

The data from the questionnaires and interviews will be organised to address each of the sub-questions.

#### 4.2.1. E-learning facilities that are available for academic staff in the Faculty of Education at KFU and their usage

Facility	Availability						Usage					
	Yes		No		No response		Yes		No		No response	
	n	%	n	%	n	%	n	%	n	%	n	%
Infrastructure support	63	91.3	6	8.7	0	0.0	55	79.9	6	8.7	8	11.6
Administrative support	58	84.1	9	13.0	2	2.9	41	59.4	16	23.2	12	17.4
Technical support	64	92.8	2	2.9	3	4.3	54	78.3	5	7.2	10	14.5
E-learning training (workshops, lectures, online courses, ...)	59	85.5	4	5.8	6	8.7	49	71.0	8	11.6	12	17.4

Table 4.1.: Facilities availability and their usage: responses to the questionnaire

Both the questionnaire and the interview included one question which asked the participants about the e-learning facilities that are available to the academic staff at KFU and investigated their current usage of these facilities (research question 1 [a]). The responses to this question in the questionnaire (question 8) are shown below.

Table (4.1.) evidently shows a high rate of access to e-learning facilities at KFU. The most accessible e-learning facilities were technical support (92.8%, n=64), while the least accessible e-learning facility was administrative support (84.1%, n=58). However, the rate of usage of these facilities was much lower. For example, administrative support availability rate was 84.1% (n=58) while its usage rate was 59.4% (n= 41).

The interview participants gave a variety of answers to this question, especially with regards to infrastructure support (n=13). Some participants pointed to the infrastructure support in general such as computer labs, computer networks, wireless networks, PowerPoint, video conferencing, Banner, e-Library, WebCT, Blackboard, SMART board and discussion forums. For example participants 3, 2 and 10 said that:

“We --in our labs—have good support, as we have 40 PCs in one network that are equipped with software, both an operating system and software applications.” (Participant 3)

“I am working with the Blackboard system, which is currently available at the university.” (Participant 2)

“I use what is available to me such as Blackboard, WebCT and e-mail. And I use computers and computer labs.” (Participant 10)

Only three participants explained how they use this infrastructure in their teaching. For example, participant 7 said that:

“I use the Internet to search for new information to be presented for students in lectures and sometimes I use Smart board and a discussion forum.”

Another participant explained how they use the Banner system for registrations of student as he stated that:

“Personally, I use the Banner program that the university uses to register the students as well as to enter the students’ grades.” (Participant 6)

Another three participants (numbers 4, 11 and 13) talked about the steps that the university is taking at the present time to cope with the rapid evolution of new e-learning systems. For example participant 4 mentioned about the university moving from using WebCT to Blackboard and said that:

“From my personal experience in teaching for two years here, I found a very good infrastructure. In my first year I use the WebCT system. Now the university is shifting from WebCT to Blackboard.”

Another participant (Participant 11) mentioned that the university is developing a high quality videoconference system to link the male staff with female students. He said,

"Yes e-learning at the University is developing in good and consistent steps and I hope that in the near future, in new buildings, there will be an appropriate distribution of e-learning facilities to all lecture rooms, and the best quality video conferencing facilities between the girls' section and ours."

Five participants (numbers 1, 9, 11, 12 and 15) referred to e-learning administrative support at KFU in their interview, such as participants 1 who said that,

"I am using technical and administrative support in order to activate the learning process between teacher and learner."

Only one participant talked about this support in more detail. Participant 11 shared his experience of having funding for his e-learning research as he said that:

"KFU offers a lot of e-learning administrative support. This year my study was accepted and funding is to be provided by the Deanship of Scientific Research. This study is about how to employ e-learning in management thinking and creative thinking among students in Saudi Arabia."

In the interview, moreover, some participants (n=7) mentioned that e-learning technical support is available to them at KFU in general and that they have tried it. Only three of them gave more details however. Participant 3 explained the role that the Deanship of Information Technology plays in making the e-learning process at KFU successful and said that:

"Regarding technical support, in fact we have good and strong technical support by the Deanship of Information Technology for both the theoretical courses that are taught for the students attending and the practical subjects such as the course of computer applications in education which has a modern version now. There is a technician in each faculty to assist academic staff in either the administrative work in their offices or in their classrooms."  
(Participant 3)

Another participant talked about the development plans that the KFU is implementing at the current time in the context of a revolution in the field of e-learning as he said that:

“Now, all servers at the university cover the Blackboard only for distance students. From the beginning of next semester, Blackboard will be available, God willing, for all students; the servers will be improved; the infrastructure will be more powerful; and the technical support will be improved. We will be able to upload our courses on Blackboard so we will use e-learning more often.”  
(Participant 4)

Only three participants (numbers 12, 15 and 17) talked about e-learning training support at KFU which included Blackboard, WebCT, web page design and PowerPoint.

Participant 12 attended e-learning training on Blackboard and said that:

“At the start, the e-learning did not exist in our department, as a specialist method of teaching; today the courses are delivered in a different way using e-learning and learning management systems in the rest of the world universities, but my department is still at beginning. In KFU, through the Dean of Academic Development some sessions were offered for academic staff to be trained on the basics of a learning management system such as Blackboard and how to work with it.”

Another participant, additionally, attended several e-learning training sessions run by the university such as web page design, Blackboard and PowerPoint as she said that:

“I have attended some of the training courses such as the use of Blackboard and web page design using the Front-Page program, as well as a course in the use of PowerPoint.” (Participant 17)

The interview covered some of the participants' reasons of using the e-learning facilities. The interviewees (numbers 3, 4, 5, 12 and 14) said that they used e-learning

facilities and systems for a number of personal reasons. These reasons included personal experiences, beliefs and attitudes. Participant 5 mentioned that:

“I had a previous personal experience in this area when I was the director of an e-learning unit in the University for two years.”

Participant 3 stated his belief that the use of e-learning improves the quality of the work as he said that:

“There are a number of reasons. First, I am convinced that a part of the quality of administrative and academic work really depends on these techniques. Various researchers have proved that using technology improves the quality of the work... Third, it gives a positive perspective on the job; it's a psychological point where a member of staff feels better when using these techniques because it facilitates their job and saves their time and effort.”

Eight participants (numbers 1, 2,7,8,9,10,11 and 12) said that they use e-learning facilities and systems for pedagogical reasons like keeping up to date with the latest e-learning pedagogies. For example, Interviewee 10 said that:

“I use e-learning facilities and systems to help me to achieve the educational goals, be enlightened and up to date with e-learning development.”

Another participant, stressed that using e-learning could improve the quality of learning where he said that:

“I use e-learning to improve the quality of learning and increase its effectiveness.”(Participant 7)

Other pedagogical reasons for using e-learning given by participants included providing better understanding for students, motivating students, and communication with students and colleagues. Participant 9 stated that using e-learning facilities and



systems could help student to understand how the muscle acts when doing a specific training where he said that:

“As you know learning occurs in two parts a theoretical part and a practical part. The practical part in our field is important, because it illustrates the theory. It is really important for my students to see how a muscle acts when doing a specific training, for instance, so the picture is completed in their minds; I believe that without technology I would not be able to complete the practical part of any lesson.”

Interviewee 8 said that an e-learning system enables active learning as he said that:

“In fact, using any means attracts and motivates my students. I mean I do not have a specific pattern in using e-learning facilities. I try to avoid plain lecturing in order to avoid being boring; so using more than one method or tool to present information in one lecture keeps my students’ brains awake all the time. In addition to this, e-learning enables me and my students to communicate between lectures anywhere and anytime.”

Another participant (11) stressed that using e-learning facilities and systems helps male academic staff communicate more easily with their students (especially with female students) and other colleagues. He said that:

“I am convinced of its value, as its usage is easy and delivers information quickly. It is useful also in terms of entering and extracting grades, registration and using video conferencing to communicate with the girls’ section. We can share and exchange information more easily with colleagues.”

Asking the interviewees about their experiences with using the e-learning facilities and systems, fourteen participants said that their experiences with the e-learning facilities and systems at KFU were positive. One interviewee talked about how

using e-learning was impressive and effective especially relating to his students' achievements. He said:

"It was very good when we (my students and I) enjoyed using video clips. I believe using technology in my subjects left a good impression with my students. This impression appears significantly in my students' assessment results" (Participant 9).

Participant 2 highlighted the problem of students' lack of awareness regarding their role as students in an e-learning class when she said:

"I use Blackboard for the practical part of my subject and I use lectures for the theoretical part. I think my experience was only moderately good, because to this day my students are not sure what is expected from them."

Academic staff were also not aware about all the e-learning facilities and services available for them at KFU. For example, participant 12 talked about his experience with administrative support. He said:

"My experience with e-learning was through the administrative support. It was fine in general. However, the major issue in this experience was that I did not know anything about the Deanship of Research except its name. I did not know that I could have support, encouragement, and even funding for my research. They never advertise about their services for researchers. I found out about all that by chance from a colleague."

The findings from the questionnaire and the interviews disagree with the literature. The findings of the current study showed that the majority of the participants acknowledged that the university makes e-learning facilities available for them. In contrast, the international literature in general and in Saudi Arabia in particular indicated that the academic staff lack infrastructure support, lack of administrative

support, lack of technical support and lack of training. For example (lack of infrastructure support), the study that was conducted by Al-Jarf (2007) in 14 Saudi universities identified the poor infrastructure as a main barrier that inhibits the staff and the students from using e-learning. Moreover, the study by Almuqayteeb (2009) also identified lack of infrastructure support as a barrier.

#### 4.2.2. E-learning skills that academic staff already have and how they are using e-learning with their students

In order to elicit answers relevant to research question 1 (b), the questionnaire included three questions (9.1, 9.2 and 10) and the interview one question (6) about the current use of e-learning tools by KFU academic staff and the pedagogies they employ.

E-learning tools	Have the skill?						Use it in teaching?					
	Yes		No		No response		Yes		No		No response	
	n	%	n	%	n	%	n	%	n	%	n	%
Discussion forum	38	55.1	26	37.7	5	7.2	27	39.1	37	53.6	5	7.2
Email	52	75.4	9	13.0	8	11.6	21	30.4	38	55.1	10	14.5
Videoconferencing	34	49.3	30	43.5	5	7.2	25	36.2	37	53.6	7	10.1
Electronic whiteboard	38	55.1	22	31.9	9	13.0	24	34.8	31	44.9	14	20.3
Learning management system (Blackboard/WebCT)	46	66.7	19	27.5	4	5.8	19	27.5	42	60.9	8	11.6
Virtual classroom system (e.g. HP, IBM Lotus, Blackboard)	24	34.8	40	58.0	5	7.2	19	27.5	39	56.5	11	15.9
Class capturing/recording system (e.g. Echo)	30	43.5	37	53.6	2	2.9	11	15.9	41	59.4	17	24.6
Authoring tool and content management systems	31	44.9	29	42.0	9	13.0	8	11.6	46	66.7	15	21.7
Online exam system	28	40.6	37	53.6	4	5.8	12	17.4	47	68.1	10	14.5

Table 4.2.: Current e-learning skills of academic staff and their usage

Table (4.2.) shows the e-learning skills that the academic staff have already as well as whether they use these skills. It was found that the most common skill among the participants was e-mail (n=52; 75.4%). In second place, 66.7% (n=46) of participants indicated that they have skills in using learning management systems like Blackboard and WebCT with 66.7% (n=46). Discussion forums and electronic

whiteboard came in the third place with 55.1% (n=38). The virtual classroom system was least used, with 34.8% (n=24) only.

The results from Table (4.2.) also showed that the three skills most often employed were discussion forums (n=27; 39.1%), videoconferencing (n=26; 36.2%), and electronic whiteboard (n=24; 34.8%). In contrast, the least used skill was the authoring tool and content management systems with 11.6% (n=8) only, followed by the use of the class capturing/recording system (n=11; 15.9%) and the use of the online exam system (n=12; 17.4%).

Surprisingly, it was also found that having a skill does not necessarily mean using it in teaching. For instance, although the majority of the participants (n=52; 75.4%) indicated that they know how to use e-mail, only 21 (30.4%) said that they use it for their teaching. Similarly, the academic staff appeared to be familiar with learning management systems (n=46; 66.7%), but only 19 (27.5%) members actually used them for teaching purposes. (See Table 4.2.)

Teaching strategy used	Always		Often		Sometimes		Rarely		Never	
	n	%	n	%	n	%	n	%	n	%
Active learning	19	27.5	24	34.8	12	17.4	5	7.2	5	7.2
Collaborative learning	27	39.1	14	20.3	20	29.0	3	4.3	2	2.9
Lecturing	51	73.9	12	17.4	3	4.3	1	1.4	2	2.9
Learner-centred teaching	21	30.4	14	20.3	18	26.1	7	10.1	7	10.1
Blended learning	8	11.6	18	26.1	13	18.8	10	14.5	12	17.4
Online learning	6	8.7	9	13.0	18	26.1	20	29.0	14	20.3

Table 4.3.: Teaching strategy

Question 10 in the questionnaire asked about the educational teaching strategies that the academic staff usually use. Answers were on a five-point scale question ranging from always to never. The most commonly used strategy was the “Lecturing” strategy

with 73.9% (n=51) of the academic staff reporting that they always use it, while the “Online learning” strategy was the least used strategy with 20.3% (n=14) reporting that they never use it. “Collaborative learning” was the second most commonly used strategy for academic staff with 39.1% (n=27). As shown above, 30.4% (n=21) of the academic staff use the “Learner-centred teaching” strategy in their teaching. (See Table 4.3.).

In the interviews, the participants confirmed their use of some of the e-learning tools that they mentioned in the questionnaire while some of them listed new tools that were not in the questionnaire items. The interviewees (n=14) said that they use one or more different e-learning tools like e-mail (n=7), PowerPoint (n=5), Blackboard (n=5), web (1), youtube (n=1), WebCT (2), videoconferences (1), discussion forum (3), projector (n=3). Participants 1, 7, 9 and 10 said that:

“We use PowerPoint, Blackboard, and youtube.”  
(Participant 1)

“Email, Internet, Excel, projector and Word.”  
(Participant 7)

“I use WebCT, Blackboard, SMART board, and I make good use of the computer by designing lectures using PowerPoint and Photoshop.”  
(Participant 9)

“Data Show, WebCT, e-mail, video conferencing. I upload my subject on WebCT so that my students can access it online. I use PowerPoint presentations.” (Participant 10)

Five interview participants (numbers 5, 8, 10, 11 and 13) explained in more detail how they integrate e-learning tools in their teaching strategies. Participant 5 uses e-learning tools with lecture and discussion as he said that:

“I use e-mail, a discussion forum and Blackboard. I emailed and posted on a discussion forum some resources for pre-lecture reading so that we could discuss them in the lecture.”

Interviewee 8 talked about using a collaborative learning strategy with e-learning tools. He stated that:

“PowerPoint, Word, e-mail, projector, and a little use of Blackboard..... Basically I use lecturing and collaborative learning when using e-learning facilities.”

Also, participant 11 integrates PowerPoint and e-mail with lectures, discussions and online strategies to motivate and attract his students. He said that:

“I use PowerPoint presentations in a simple and beautiful way in order to motivate and attract my students as well as communicating with my students via email. I have several methods used with students, for example discussion in the lecture about an idea that one student e-mailed to all his colleagues earlier so all the other students had the chance to prepare their own ideas and options to contribute in the discussion. I also use e-mail to receive assignments from both my female and male students.”

In contrast, four participants (numbers 3,14,6, and 17) do not use e-learning with their students. Only one of these gave an explanation. He said that:

“I do not use e-learning tools with regular students, but I use it only for distance learning. Each week I record my lecture on the recording system at the Deanship of E-learning and Distance Education and then upload it on the Blackboard system for students to be able to use it anywhere at any time. Firstly, I will have met students 3 times at a semester to summarise previous lectures and discuss the course subject through using Blackboard for one hour. Secondly, students can communicate with me at official hours by mobile phone and using a discussion forum.” (Participant 3)

### 4.2.3. Factors that either help or hinder the use of e-learning by academic staff

#### 4.2.3.1. Barriers to the use of e-learning by academic staff

E-learning tools	Reason given if not using e-learning tools						
	Lack of time	Lack of knowledge	Lack of training	Lack of Infrastructure support	Lack of technical support	Lack of administrative support	Not applicable
Discussion Forum	30.4%	10.1%	10.1%	8.7%	4.3%	2.9%	8.7%
Email	4.3%	2.9%	5.8%	1.4%	2.9%	2.9%	0.0%
Videoconferencing	14.5%	13.0%	21.7%	7.2%	10.1%	4.3%	17.4%
Electronic whiteboard	2.9%	11.6%	20.3%	20.3%	5.8%	7.2%	8.7%
Learning management system (Blackboard/WebCT)	8.7%	14.5%	24.6%	10.1%	8.7%	5.8%	8.7%
Virtual classroom system (e.g. HP, IBM Lotus, Blackboard)	5.8%	17.4%	27.5%	21.7%	10.1%	5.8%	15.9%
Class capturing/recording System (e.g. Echo)	4.3%	18.8%	21.7%	11.6%	4.3%	7.2%	14.5%
Authoring tool and content management systems	8.7%	18.8%	26.1%	14.5%	11.6%	11.6%	8.7%
Online exam system	7.2%	11.6%	26.1%	24.6%	11.6%	13.0%	11.6%
Average response	9.6%	13.2%	20.4%	13.3%	7.7%	6.7%	10.5%

Table 4.4.: Barriers to using e-learning tools

Question (9.2.) asked the academic staff for the reasons why they did not use e-learning tools available to them. When averaging across all the tools the most significant problems appear to be lack of training (20.4%), followed by lack of infrastructure support (13.3%) and lack of knowledge (13.2%).

Looking at specific e-learning tools, the most significant problem that hindered participants from using discussion forums in their teaching was lack of time (30.4 %).



On the other hand, the least significant problem with regards to using email was infrastructure support (1.4%) (See Table 4.4.).

The results from (Table 4.4.) show that, except in the case of discussion forums, lack of training, lack of infrastructure support, and lack of knowledge were the most significant problems that prohibited academic staff from using e-learning tools, Lack of training was the most frequently cited reason for not using virtual classroom system (27.5%), an authoring tool and content management system (26.1%), an online exam system (26.1%), or a learning management system (24.6%) at KFU. The second problem was lack of infrastructure support for using an e-learning tool such as an online exam system (24.6%), virtual classroom system (21.7%) or an electronic whiteboard (20.3%). Lack of knowledge was a third problem that hindered academic staff from using either an authoring tool and content management systems, a class capturing/recording system (18.8%) or virtual classroom system (17.4%). Finally, lack of administrative support was at the least cited problem that faced the academic staff when using e-learning tools in their teaching with the exceptions of an online exam system, an electronic whiteboard and a class capturing/recording system, where a lack of technical support was the least mentioned problem, affecting 11.6%, 5.8% and 4.3% respectively.

The interviewees were asked if they knew any e-learning facilities that they would like to use at KFU but were unable to, and what factors might hinder or increase their use of e-learning with their students. It was found that eight participants (numbers 2,3,4,5,7,10,13 and 15) thought that the e-learning facilities that were available at KFU were sufficient. For example, interviewee 2 mentioned that:

“There isn't a certain thing because the university provides many e-learning systems, such as Blackboard which is enough, but the students do need courses in how to use Blackboard.”

Participant 3 added that:

“I do not know about any specific software, there may be other similar programmes to what is applied here such as the learning management systems. I believe that if we use what is available currently at the university for both academic and administrative purposes we will achieve good results. Currently we teach and treat students' results electronically. We also use lots of electronic communication tools with our students. I just hope that we will be helped to understand what KFU provides for us.”

On the other hand, some participants mentioned a number of barriers to the use e-learning with their students as will be discussed below:

***- Lack of time:***

Only one participant raised the problem related to a lack of time for using e-learning. Interviewee 10 mentioned the time and effort that e-learning needs; he said:

“e-learning needs more time for preparation to use it.”

***- Lack of infrastructure support***

In the interview, seven participants of 17 said that lack of infrastructure was a barrier to using e-learning in their teaching, mentioning specifically computers, computer labs and internet servers. Participants 1, 4 and 14 said that:

“We need more Infrastructure support like computers and computer labs.” (Participant 1)

“I hope that the university accelerates increasing the number of servers so we can all upload our courses and allow more students to access them. Let me talk about our department (Educational Technologies): we need to have two or three more computer labs that are equipped with a sufficient number of computers and their accessories as well as more

servers. In other words, we need more space and equipment.” (Participant 4)

“I hope to have a computer for each student in the classroom so that they can all access the (web) sites and search for information, which encourages self-education.” (Participant 14)

Two participants said that they lack access to Blackboard and a virtual classroom at the moment, while they also indicated they would have access to such infrastructure for traditional education at the start of the next academic year. Participant 11 said that:

“I've heard about virtual classrooms and I wish to apply it here (traditional education), to change our traditional classrooms.”

Also participant 6 stated that:

“In fact, there is Blackboard, a system which will be applied in the next academic year. I would prefer to use it because I could create tests, upload course chapters and initiate a thread on discussion forums. But Blackboard is currently available for distance learning only.”

#### ***- Lack of technical support***

Only four participants of 17 raised the problem of a lack of technical support in relation to using e-learning. Participants 9 and 6 said that:

“ We face problems with using Banner system because it is so slow and breaks down very often. So I think we need to update the network and resolve these kinds of issues (Participant 9)

“If the university does not solve the technical problems very soon these e-learning tools will be useless.” (Participant 6)

The interviewees claimed that when any technical problem occurred, they lost all the advantages of using e-learning. Interviewees 10 and 8 mentioned that:

“Lack of technical support at times such as when the Internet slows down or when applications are not responding makes me nervous and confused.” (Interviewee 10)

“On the other hand, using e-learning is not always reliable. When the Internet is down, I lose the advantage of communicating with my students. Using PowerPoint in lectures needs some time and effort before the lectures. Technical problems are awful.” (Interviewee 8)

### ***-Lack of training:***

Lack of training was a major hindrance to using e-learning that participants (n=11) discussed in the interview. It was found that although the university does provide a number of e-learning training courses for the academic staff, the participants still ask for more. One interviewee (13) emphasised this problem as he said that:

“According to research results that I have found, I can confirm that there is an urgent need to provide training for academic staff on designing online curriculums where what they provide is really under the quality that they should present since they limit their e-learning teaching to using PowerPoint presentations only. Unfortunately, they do not use all the available facilities and opportunities available for them in the University.”

Many participants talked about the need for training to cover both technical and pedagogical aspects. For example:

“Blackboard needs to be distributed more and we need to be trained on it more as the training we took on it was insufficient to start using it and benefiting from its features.” (Participant 9)

“We need more pedagogical courses that link technology to our teaching and enable us to exploit our technology skills in our teaching and students' learning. It is important to ensure that our students benefit from the advantages of e-learning as well. I attended a course that focused mainly on technological skills.” (Participant 2)

“Although there are several training courses scheduled every year, they are still not enough comparing with the number of staff. The course times also are not always suitable for us. They never reschedule training on request from the academic staff. The number of academic staff in the university is huge and the training courses need to be tailored to fit them.” (Participant 16)

#### ***- Lack of administrative support***

The interviewees indicated that a lack of administrative support was a major barrier that limited their use of e-learning. Some of the interviewees (10, 11, and 12) suggested that the administration should give bonuses to those instructors who use e-learning to encourage the rest of them. For example, interviewee 11 said:

“Provide rewards to the academic staff who use e-learning and reduce the teaching loads.”

Interviewee 12 went further when he said:

“The academic staff member has to have the prestige of a private office, hardware, and an account on the learning management system. He also needs to be trained continuously on the latest skills in the field and assessed by the university regarding his use of such skills in his instruction. If the instructor is keen to use the most developed e-learning services and systems in his teaching, this means he meets the university mission and aspiration to be one of the leading ones in the field so he needs to be treated and rewarded in such a way as to motivate and encourage his further development.”

One interviewee (participant 9) also suggested that e-learning usage needs to be in the university policy itself in order to increase awareness of the importance of e-learning among its students and staff alike. He also talked about the lack of Arabic resources for e-learning. He said:

“We first need all the important stakeholders at the university to be committed to raising awareness of

the importance of e-learning among the university students and the staff. Can you imagine, we still have some students and academic staff who do not believe in e-learning yet? You know how difficult it is to publish a new book about e-learning in the Arab world, which makes any author prefer not to write again. Therefore we lack Arabic resources.”

Another problem that may make instructors hesitate to use e-learning is the issue of plagiarism. Interviewee 6 said that:

"I cannot guarantee that the activity is done by students; it is really possible to plagiarise somebody else's work.”

Finally, interviewee 1 highlighted an issue regarding the practical application of some parts of any lesson that cannot be explained using e-learning tools. He claimed that:

"There are some practical parts of the subject of sport that could not be explained without face-to-face exercises even if it were showed twenty times via video clips.”

The findings from the interview and questionnaire regarding the barriers to effective use of e-learning are not new, with exception of plagiarism issues and the issue of practical application. As indicated in chapter two, there is much literature reporting lack of time, support and training to be significant barriers to e-learning use.

#### 4.2.3.2. Motivators for using e-learning

Motivation	Number of participants in favour	
	n	%
Practical:		
- Using e-learning saves my time.	55	79.7
- E-Learning brings greater flexibility	55	79.7
- E-learning can make teaching/learning easier.	54	78.3
Pedagogical:		
- E-learning increases opportunities for collaborative work among learners.	54	78.3
- E-Learning attracts and motivates students to learn	53	76.8
-E-learning improves my communication with students.	52	75.4
- E-learning makes learning an active experience.	51	73.9
- E-learning empowers learners.	48	69.6
- Applying e-learning improves my technological and pedagogical skills.	47	68.1
- E-learning can improve the quality of education.	47	68.1
- E-learning improves learning achievements and learners' productivity.	40	58.0
- Other	3	4.3
- Not applicable	13	18.8

Table 4.5.: Motivations for using e-learning

In question 9.3 of the questionnaire, motivations for using e-learning were broken down into two categories: practical motivators and pedagogical motivators. The top three motivators in the practical category were “Using e-learning saves my time” (n=55; 79.7%), “E-Learning brings greater flexibility” (n=55; 79.7%), and “E-learning can make teaching/learning easier” (n=54; 78.3%). At the same time, the top three motivators in the pedagogical category were “E-learning increases opportunities for collaborative work among learners” (n=54, 78.3%), “E-Learning attracts and motivates

students to learn” (n=53, 76.8%) and “E-learning improves my communication with students” (n=52; 75.4%). Only three members used the ‘Other’ option to create their own motivators including: (a) e-learning tools make communication with experts much easier in all education fields so one can access all new issues in one’s specialist field; (b) coping with new development; (c) the variety in the teaching tools where teachers have many alternatives to choose from; and (d) flexibility. The staff were asked to state their own reasons for selecting the ‘Not applicable’ choice as an option. The stated different reasons can be summarised in seven categories including lack of training (n=6), lack of knowledge (n=3), lack of technical support (n=1), lack infrastructure (n=1), lack of administrative support (n=1), lack of awareness (n=1), and the nature of the curriculum (n=1). See table 4.5.

Question 11 asked participants whether e-learning helped them to develop their preferred teaching strategy (See Table 4.6).

Question	Number of participants in favour	
	n	%
Does e-learning help you to develop your preferred teaching strategy?	52	75.4

Table 4.6.: Does e-learning help academic staff to develop their preferred teaching strategy?

The results in Table (4.6.) show that a high number of academic staff agreed that e-learning played role in developing their preferred teaching strategy. The ways that e-learning helped participants to develop their preferred teaching strategy included both pedagogical and practical reasons. The results from table (4.7) show that the top three practical reasons were “Saves time and effort” (n=13) and “Can make learning/teaching easier” (n=8) and “Brings greater flexibility.” (n=2). See table 4.7. The top three pedagogical reasons were “Makes learning an active experience where more active interaction occurs between students, lecturer and subject” (n=15), “Easy to



communicate with students” (n=14), and “E-Learning attracts and motivates students to learn” (n=6). See Table 4.7.

Motivation Reasons	n
Practical:	
-Saves time and effort	13
-Can make learning/teaching easier.	8
- Brings greater flexibility.	2
- E-learning can make Distance learning easier	1
- Easy to share information between student and lecturer.	1
Pedagogical:	
- Makes learning an active experience where more active interaction occurs between students, lecturer and subject	15
- Easy to communicate with students	14
- E-Learning attracts and motivates students to learn	6
- Provides an opportunity for students to discuss and dialogue.	5
- Increases students’ motivation for learning	4
- Increases the options used in the process of teaching.	4
- Improves learning achievements and learners' productivity.	3
- Improves my technological and pedagogical skills in learning.	2
- Increases opportunities of collaborative work among learners.	2
- Makes learning an active experience and engaging.	1

Table 4.7.: reasons of how e-learning help academic staff to develop their teaching strategy

The interviewees (n= 8) expressed a number of reasons for increasing their use of e-learning which can be broken down into two categories: external and internal factors. External factors included keeping up-to-date in the rapidly changing technological era, and university policy. Five participants (1, 2, 8, 9 and14) believed that they needed to increase their use of e-learning in order to cope the rapid development of technology in education. Participant 1 said that:

“I would like to increase my use of e-learning because education has moved from traditional methods to modern ones and to be up-to-date with new e-learning systems will make teaching even easier.”

One interviewee also explained why he needed to improve his use of e-learning. He said,

“Technology is the language of the current era; education is not limited to spoon-fed information

and memorisation anymore; we need to make learning a more active process, especially as we are already in the 21st century- the computer era. We no longer have the traditional paper books! We could have the whole curriculum on an iPad, iPhone or any other computer-based device. I would love to shift to e-learning especially where we have all the possibilities in the Kingdom” (Interviewee 9).

Also, two interviewees mentioned that using e-learning has become a key policy in a huge number of universities both worldwide and in Saudi Arabia. Participant 11 said that:

“There will be about 14 virtual universities in Saudi Arabia officially in the near future; we need to cope with this very quickly.”

Internal factors may include personal development, and increasing motivation. One participant said that the e-learning facilities and systems in the university should be updated and developed so that his teaching would improve. Participant 10 said:

“Increasing my use of e-learning has really relied on how developed the e-learning system available in the university is.”

The interviewees discussed a number of the advantages that motivate them to use e-learning with their students including communication (n=6), flexibility (n=2), shifting from instructor-centred education to learner-centred education (n=1), saving time (n=1), sharing resources (n=1), students’ motivation (n=1).

The interviewees were really motivated because of the communication possibilities afforded by e-learning. Interviewee 1 said that:

"I'm 100% with e-learning use because it facilitates communication with students, and make learning/teaching easier.”

Interviewee 17 said:

“I believe that e-learning has no disadvantages. E-learning has become a crucial tool in all educational societies especially Arabic ones. It presents a variable pattern that is really different from the traditional one. It also allows more and better opportunities for learners to communicate with the instructor, who could not be contacted when out of the classroom in the past, through discussion forums, chat rooms, e-mail, blogs, etc. In the past decade literacy referred to computer skills; I believe now that literacy is significantly related to the Internet which is available almost everywhere and for everything. Therefore, education should be among the first to employ it for its people.”

Two interviewees talked about the flexibility of e-learning. Interviewee 13 said:

“I am with e-learning. It really provides a flexible learning environment for students, as they can learn at a time and place to suit them and according to their own abilities. Some students could not achieve full understanding in the classroom for many reasons such as lack of time or even because the student is very shy and could not ask for a repetition. Here, a student could catch up with what he missed from the curriculum materials online.”

One interviewee believed that using e-learning would help instructors to move to learner-centred education; he said:

“I think the focus of the educational process is the student now. E-learning has the ability to make learning more student-centred than instructor-centred which helps students to understand and remember information easily.” (Interviewee 4)

Some participants talked about the goals that they wished to achieve from attending such a training programme. Their goals were varied between being technology or pedagogy focused. However, all of them focused on achieving better and more effective use of e-learning with their students. Here are some of their goals as mentioned in the interviews:

“At the end of the training, I wish to be able to effectively and meaningfully use an e-learning tool or system with my students for more motivation and easier information delivery.” (Participant 8)

“I expect at the end of the training I will be able to deal more easily with the technology and pedagogies that I will be trained on.” (Participant 10)

“It will improve my use of e-learning pedagogies. However, this won't happen unless the necessary e-learning facilities are available for me in the university; otherwise the training will be useless for me.” (Participant 6)

“Personally, I will benefit as I believe that an academic individual should develop himself and keep learning about new things to be able to improve his teaching and research skills at the university.” (Participant 12)

These findings are supported by the literature. For example, some practical motivators were reported in the studies by Almalki, 2011; Alaugab, 2007; Ziyadah, 2012; Panda and Mishra 2007; Alebaikan, 2010; Boardman and Antoniou, 2002; Al-Fadhli, 2009; Alhawiti, 2011. Similarly, the pedagogical motivators were highlighted in the studies by Almalki, 2011; Alaugab, 2007; Panda and Mishra 2007; Algahtani, 2011; Moore and Kearsley, 2005; Shtat, 2004; Albalawi, 2007; Asiri, 2009.

#### **4.2.4. The e-learning training needs and preferences of academic staff**

The interviews showed that most participants had received some training on one or more type of e-learning tools (n=12). Only two participants indicated that they had never been to a training package on e-learning tools. The most common e-learning system that the participants were trained on was Blackboard (n=10). Most of the participants mentioned that they did not have the opportunity to apply what they learned practically. This was either because the training emphasised the theoretical potentials of

the Blackboard rather than the practical application or because of the lack of access to the Blackboard in the university. Participant 12 commented on a short two-day course he attended on Blackboard that presented brief information about Blackboard; he said that:

"It was successful in terms of the knowledge we gained from the trainer but we could not use it in reality because it was not available in the university."

Another participant said that:

"I attended a course on Blackboard but it was short and face-to-face, and I cannot deny it was useful somehow. However, because it was very intensive course and had too much theoretical information and very little practical application it became a completely useless course. "(Participant 2)

All the participants (n=15), who had received training in the past said that they were trained face-to-face and for a short time. Only one participant (number 17) was trained for a total of 60 hours over 10 days on Intel. Participant 4 described two courses on Blackboard that he had attended, he said that:

"Both courses were face-to-face and lasted for two days."

The problem of offering only short introductory training programmes was not limited to KFU, since one participant experienced it overseas. He said that:

"It was not at KFU, but I attended a short training course of three or four hours at one university in the U.S.A. where I was studying." (Participant 3)

These findings, that more intensive training packages are needed, were extensively reported in the literature (for example, Mitchell and Geva-May, 2009; Alghonaim, 2005; Ziyadah, 2012; Almuqayteeb, 2009).

#### 4.2.4.1. Training needs and preferences

##### 4.2.4.1.1. Questionnaire

Questions 12,13, and 14 in the questionnaire investigated the participants' training needs and preferences:

Timing, length and delivery of the training	Number of participants in favour	
	n	%
E-learning systems:		
- Learning management system (e.g. Blackboard/WebCT)	47	68.1
- virtual classroom system (e.g. HP, IBM Lotus, Blackboard)	41	59.4
- Class capturing/recording system (e.g. Echo)	40	58.0
- Authoring tool and content management systems	45	65.2
- Online exam system	54	78.3
- Other	2	2.9
Content:		
- Introduction of e-learning systems	37	53.6
- Basic e-learning technological skills	52	75.4
- Meaningful use of e-learning in teaching e.g., theory/strategy/objective/plan/activities/assessment/interaction	59	85.5
-Tutor and learner roles in e-learning systems	44	63.8

Table 4.8.: Training package content

The data show that the most desired e-learning system was the online exam system (n= 54, 78.3 %) and the second most desired system was a learning management system (n= 47, 68.1 %) while the least desired one was the class capturing/recording system. Only two participants added systems, other than those in the provided list; which were mobile learning and web 2.0 tools such as Facebook and Twitter. All the suggested contents of the training course were requested by more than 50% of participants; however, the most preferred piece of content (chosen by n=59; 85.5%) was meaningful use of e-learning in teaching (See Table 4.8.).

Timing, length and delivery of the training	Number of participants in favour	
	n	%
Time:		
At the beginning of the term	47	68.1
At the middle of the term	6	8.7
At the end of the term	9	13.0
At the holiday on my own time	7	10.1
Length:		
2 ~ 4 weeks	53	76.8
5 ~ 8 weeks	13	18.8
9 ~ 12 weeks	3	4.3
Delivery:		
Entirely online	3	4.3
Entirely face-to-face	26	37.7
Blended (online and face-to-face)	40	58.0
Learning Method:		
Teacher-led lectures	51	73.9
Collaborative learning	8	11.6
Individual learning	10	14.5

Table 4.9.: Training package preferences

The majority of the participants agreed that the beginning of term would be the most suitable time in the academic year to attend the training. They also preferred short training with 76.8% (n=53) choosing to train for 2-4 weeks only. The participants preferred to learn via blended (face-to-face and online) delivery and in teacher-led lectures (see Table 4.9).

#### 4.2.4.1.2. Interview

##### 4.2.4.1.2.1. Content

In the interview, the participants mentioned a number of e-learning tools and systems that they would like to learn more about including Blackboard (n=11), WebCT (n=4), online exams (n=3), virtual classroom (n=2), interactive white board (n=2), web 2.0 tools (n=2), SMART board (n=1), discussion forum (n=1) and the use of a programming language such as Visual Basic together with Oracle software to design and create simulations (n=1). Some participants did not choose a specific tool in

particular rather they indicated that they wished to learn technological and pedagogical aspects of e-learning in general. For example, participant 7 said that:

" I hope to have a combination of technological and pedagogical training; for example, basic e-learning technological skills."

And participant 8 said that:

"I want it to be on how to theoretically and practically employ the technologies available at the university in my teaching."

It was predictable that most participants wanted to learn more about Blackboard as most of them had some prior experience of using it. They did however want more practical experience to be incorporated into the training. Participant 3 wanted to learn comprehensively about Blackboard and its potential. He said:

"I want to learn comprehensively everything about the Blackboard system including its potential uses and capabilities. I also want to learn about pedagogical skills that are really important for those who were not lucky enough to learn about them in the past. I believe knowing how a specific tool works is not enough, rather knowing how to use it meaningfully in a teaching context is more significant. This could teach our students how to teach using these skills as well."

Participant 12 preferred to focus on the tools and the skills that an instructor may especially need to use in the classroom. He said:

"The content should include what the lecturer usually needs to use in Blackboard such as uploading the subject materials, time management, assignments, exams, assessment tools, and forums."



Participant 13 was more specific and asked for training on designing the online curriculum on Blackboard; he said:

"I prefer to focus on designing the curriculum on Blackboard, using its tools with practical applications."

#### **4.2.4.1.2.2. Length**

The preferred length of the training varied from 1 to 4 weeks as indicated by 10 participants. Some participants were more specific where they talked about the most suitable time of the term to conduct the training. For example, participant 8 and 15; said:

"I think it should not be more than one week (intensive) otherwise our schedules will be negatively affected. I think conducting the training at the beginning of the semester before students start coming to the university will be better." (Participant 8)

"I wish not to have the training at the beginning of the term as the academic staff would be really busy preparing their curriculums, so the third or the fourth week of the term should be fine. Also I believe it should be held after noon because the trainees would have lectures in the morning for sure." (Participant 15)

#### **4.2.4.1.2.3. Delivery**

Unlike the length of the training, delivery was an issue where the participants did not agree. There were two opinions. One was for receiving the training entirely face-to-face (n=7), the second was for blended learning (n=9). Each group had an argument for their choice. For example, the face-to-face selectors argued that they felt more comfortable when they had the trainer with them watching and guiding them. Participant 12 mentioned that:

"I prefer having the training where the trainer is there with me watching and commenting on my application face-to-face."

Participant 13 also commented on his choice as he said that:

"I see that the best kind of training would be the direct face-to-face training where there will be a good interaction between the trainer and the trainees."

On the other hand, supporters of blended delivery argued that it would enable trainees to have the same experience as students, so they would know how the good online instructor should work. Participant 4 said that:

"It does not matter how we receive the training, either face-to-face or online; I may have a disagreement on how long each session will take. However, I think learning by the same environment would be ideal."

Participant 9 also said that:

"Blended would have more impact on me as I will benefit from experiencing what the online delivery looks like and will have the opportunity for observing good practice."

### **4.3. Summary**

This chapter has provided a detailed account of the data analysis and findings of phase 1 that were collected from a questionnaire and an interview as mentioned in Chapter 3. The findings that have been presented have answered question 1 of the research questions. The findings indicated that KFU offered its staff adequate access to infrastructure support, technical support, administrative support, and training workshops on e-learning. With the exception of lack of training, only a few of the questionnaire

respondents and the interviewees indicated that they encountered some barriers like lack of time, lack of infrastructure support, lack of technical support and lack of administrative support. The participants had some skills in using e-mails, learning management systems and discussion forums. However, their use of these skills in teaching was low. Unfortunately, the majority of the participants used 'lecturing' with their students. The participants reported that they were motivated to apply e-learning because of practical and pedagogical reasons. For example, practically, they believe that using e-learning saves time, e-learning brings greater flexibility and e-learning can make teaching/learning easier. Similarly, pedagogical reasons were that e-learning increases opportunities for collaborative work among learners, e-learning attracts and motivates students to learn, e-learning improves communication with students and makes learning an active experience where more active interaction occurs between students. Regarding future training, participants selected the technical and pedagogical aspects of Blackboard for the content, from 2-4 weeks for the length, blended learning for the delivery and at the beginning of the academic term for the time. Considering the literature, some of the findings revealed in this chapter conflicted with the literature where some others completely agreed with it. The following chapter will review the literature about training projects provided for academic staff in the field of e-learning.

# **Chapter 5: Design of the Training Package**

## **5. Design of the Training Package**

### **5.1. Introduction**

This chapter will include three parts concerning the actual design of the experimental e-learning training that aims to meet the technological and pedagogical needs of academic staff in the Faculty of Education at KFU, Saudi Arabia. The first part will be a review of the literature about existing e-learning training projects for academic staff. The review will include the content of training, the delivery method, the pedagogy used, and the time and duration of the training. The second part will discuss the proposal for a training package. The third part will describe the proposed training package, the design of which has been based on the academic staff needs analysis and the training literature. Moreover, this chapter will answer the two parts of the second sub-question, which is: How can the e-learning training needs of the academic staff in the faculty of education at KFU be effectively addressed?

a) How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package?

b) How might e-learning theories and models inform the key design features and characteristics of an e-learning training package?

### **5.2. Review of literature relating to e-learning training for academic staff**

#### **5.2.1. Content**

The content of the training package plays a key role in its success. In addition, for a training package to be really successful, two factors must be taken in account, namely the analysis of academic staff training needs and combining technical and pedagogical skills together.

Many e-learning researchers point out that the design of training for academic staff should identify their needs before starting the actual design of the training package (Aldakel, 2003; Alhbab, 2013; Alhawiti, 2011; Yardy and Date-Huxtable, 2011; Taylor, 2003; Birch and Burnett, 2009; Irani and Telg, 2002; Oliver, 2004; McLean, 2005; Kou and Wan, 2009; Westerman and Barry, 2009). In their review of the institutional level barriers that inhibit academic staff from adopting and integrating e-learning, Birch and Burnett (2009) highlight the importance of designing the e-learning training packages according to staff needs and interests. The authors stress even more that the technical support, timing and source of training should be tailored based on the academic staff's needs. Supporting the earlier claim of Birch and Burnett (2009), Yardy and Date-Huxtable (2011) believe that the effectiveness of a staff development website for self-directed learning can be measured by the extent to which that website could address the staff's learning needs. Also, Taylor (2003) suggests that when designing an online staff development package, more stress must be put on flexibility, so that beginners and experienced users alike can choose their entry training needs. Moreover, Kou and Wan (2009) proposed an e-learning-based training model for college teachers in China. The authors suggested the following tips for a successful model of e-learning-based educational technology training for college teachers (blended learning) as below:

- Test trainees' original ability;
- Analyze trainees' needs;
- Design training program;
- Construct learning platform and resources;
- Apply E-learning training system;
- Test comprehensive ability; and
- Evaluate (Kou and Wan, 2009,p.208).

A number of researchers have argued that there is a need to include both technical and pedagogical elements in training (Donnelly, 2006; Wilson and Stacey, 2003; Rienties and Brouwer, 2013; Almuqayteeb, 2009; Ebert-May *et al.*, 2011; Littlejohn, 2002; Kou and Wan, 2009 Alvarez *et al.*, 2009; Westerman and Barry, 2009;

Committee of Inquiry into the Changing Learner Experience, 2009; Rienties and Townsend, 2012; Salmon *et al.*, 2008). For example, according to Donnelly (2006; p.106), “Some of the module participants would have liked to have seen more emphasis on implementing their website, as opposed to pedagogy and design, as they felt that this should be one of the main outcomes of the course”. In their review of the theories, models and practices of staff development that designers could use as guides to the content and focus of staff development for online teaching, Wilson and Stacey (2003) highlight the importance of including both technical and pedagogical skills in the design of any e-learning training package. Wilson and Stacey (2003) suggest that "The online teacher needs to understand not only the technical platform being used to support online teaching, but also requires the design skills necessary to avoid the 'dumping' of content used in classroom based contexts into the online environment" (Wilson and Stacey, 2003, p.548). According to Littlejohn (2002), traditionally, professional development focussed on IT skills and completely ignored the issues of course design. She argues that the design of continuing professional development programmes must be informed by the theories and the models already existing in the literature as well as the academic staff's practical needs. The examination of the attitudes of female academic staff toward the use of computer technologies and the barriers that limit their use of technologies in two girls' colleges in KFU in Saudi Arabia, by Almuqayteeb (2009, p.174) recommended that the training programmes provided by the university “should not only focus on increasing computer skills, but also demonstrate how female faculty members could integrate different computer technologies into their teaching”.

In this section, some examples of training that has included both technical and pedagogical elements will be discussed. For example, Donnelly (2006) reviews her case study research on a Postgraduate Diploma module in Higher Education. She designed a technical and pedagogical module called, "Online Learning" for academic staff

(lecturers, librarians and educational technologists) in Higher Education in the Republic of Ireland. This module is a part of a professional development programme for academic staff. The module aims to help academic staff to design, deliver, support and evaluate their online module through a blended learning approach to PBL. The course included constructivism and PBL theories, creating online tutorials, e-learning design and implementation, and preparation of exemplar online learning materials. The theories were taught practically by using them as pedagogy of the training.

Another training package was trialled by Gunn *et al.* (1999) to improve the Hong Kong Institute of Vocational Education staff's usage of technology in teaching. The training package was intended to achieve the following aims:

- To provide staff from the three campuses with a global perspective of the various ways that technology is being used by teachers and learners in different educational settings.
- To motivate staff to use technology effectively in the teaching and learning process, and to assist them to gain confidence in doing so
- To help staff make best use of improved IT facilities within Institute of Vocational Education and to judge the quality of educational software packages.
- To assist staff to form realistic IT strategies for their own work contexts (Gunn *et al.*, 1999, p.128).

The training package included both technical and pedagogical topics. The technical topics included computer-assisted teaching and authoring tools, computer-assisted learning and assessment, computer networks, online presentation, and trouble shooting of simple hardware and software problems. The pedagogical topics included various ways of using IT in teaching and learning, contemporary developments and products, learning theories and teaching practice, evaluation, and opportunities and constraints (Gunn *et al.*, 1999).

Kou and Wan (2009) proposed an e-learning-based training model for college teachers in China. The authors believe that designing the training as they proposed can:

- Transform original instructional concept;



- Create a lifelong learning system; and
- Realize personalized services for teacher (Kou and Wan, 2009, p.206).

The training package covered several technical and pedagogical topics including instructional design and practice, technological capability, resources management, professional development and evaluation. They suggested Blackboard as a platform.

Littlejohn (2002) reviews her implementation of a continuing professional development course entitled "Web-based Teaching". This course aims to equip academic staff with the skills and knowledge required to develop their e-learning course with new teaching methods grounded in current educational theory. This training course was developed using as a basis four key recommendations from her literature for continuing professional development as below:

- Encourage focus on outcomes which can be evaluated, thereby promoting incremental change.
- Provide a practical introduction to educational theory which places dialogue and feedback central to course design.
- Develop project-based continuing professional development in which academics plan students' activities before choosing the medium for delivery.
- Offer IT skills on a 'need to know' basis Littlejohn (2002, p.170).

The technical aspects of the training included the introduction of web authoring software, and practical limitations of implementing online learning. The pedagogical aspects of the training included learning theories, pedagogical limitations of implementing online learning and planning and designing an online learning activity.

Taylor (2003) reported a staff development package using an online learning environment in one university in Australia. This initiative, that was conducted in the USQ over six months, was the core of several changes required to move the university into the online environment. In this package, an information session, facilitated by senior management, was delivered face-to-face to all university staff. There were also a series of face-to-face workshops in each department to train the staff on some technical skills including but not limited to the use of the staff Internet and manipulation of files.

These workshops were delivered by the Library, Information Technology Services and Distance Education Centre. There was one-to-one follow-up support. Later, an online staff development package was designed for all university staff who could act as either an instructor or a student. This online package included instruction on online teaching, using technology and examples of real discipline-based online units. Using an online discussion group, staff had the opportunity to discuss and reflect online. The online staff development package included four modules, which were: introducing USQ online, administering units in USQ online, communicating in USQ online, assessing in USQ online. It was decided not to hold long face-to-face sessions to deliver the online package; instead there was an awareness-online resources-reflection cycle where each member of staff was allowed to enter at any point of that cycle. For example, novice staff may enter at the beginning of the cycle where a great deal of general information about the online environment in USQ was provided. Such sessions lasted for approximately one hour. Next, there were workshops on technical use of the online environment run in a computer lab where staff were introduced to online resources, which were demonstrated with practical activities. The staff had opportunities to go to the online unit to practice their skills at any time. Finally, staff were required to participate in the online reflection via the online discussion space. These modes of delivery were ideal to provide great degrees of flexibility for the participants since they allowed “ both novice and expert to utilise the system as needed, and to make the most economical use of academic time” (Taylor, 2003, p.82).

Alsofyani *et al.* (2012) conducted a preliminary evaluation of a short blended online training workshop by using a technology acceptance model. The authors believe that short blended online training could create an environment for training that adult learners significantly prefer. Such an environment contains a blend of instructor-led pedagogies such as presentation, demonstration, practice and feedback. The focus of the

training was on the principles of adult learning theory, Bloom's Taxonomy, the Technological Pedagogical and Content Knowledge (TPACK) concept, principles of effective instruction (for example, formative evaluation and group work), online activities (types and styles), blended online course design, and blended online course development.

### **5.2.2. Delivery**

To deliver any training programme, there are three options: face-to-face, online or blended. Each method has advantages that encourage a trainer using it in their training. However, it is very important to select a training environment that facilitates the training objectives. For example, if training focuses on Learning Management Systems, it is necessary to use a Learning Management System as a platform for the training so that the trainees could experience the features of it, thus they would be more likely to use it with their students in the future. Donnelly (2006, 98) believes that the same e-learning approach, that academic staff should ideally use with their students, should be employed when providing an e-learning training for academic staff. She claims that, "Key to the module design was creating a situation where these participants were empowered to understand the knowledge construction process by experiencing online education as learners themselves; with the aim of providing these teachers with a much greater understanding of what will be required by their own students". Like Donnelly (2006), Alhbabi (2013) stresses that in any training package, it is important to train the academic staff by allowing them to experience the students' role; thus they would know their students' needs and what to expect from them. Moreover, Alsadoon (2009, 13) believes that "online training allows faculty members to experience the role of an online learner, which helps them to understand their role in online instruction".

#### **- Online Learning**

Online learning has become a popular learning mode due to the great benefits that face-to-face learning cannot offer. Treacy *et al.* (2002) list a number of benefits of online professional development which are: experiencing online learning as a learner, flexibility of learning, using new technologies and multimedia, collaborative learning with other educators, and participants can have direct feedback on their practice. They also point out that online professional development offers opportunities to attend courses that might not be available locally. Online courses could create sustained social relationships so the participants can stay connected to each other even after the completion of the course (Treacy *et al.*, 2002). Dede *et al.* (2009) agree with Treacy *et al.* (2002) on the benefits of using online professional development. They indicate that online asynchronous interaction tools offer opportunities for reflection and encourage the silent participants to find their voice, and provide unique opportunities for learning in immersive virtual simulations. The authors also highlight the ability of online professional development to introduce new curricula, change the educators' beliefs and practices, change school organisation and culture, and enhance relationships between school and community. Moreover, Jung (2001; p. 1) lists three of the general purposes of using online education:

- To increase access to education for individuals located throughout the world,
- To remove barriers of time and space, and
- To develop a cost-effective approach to providing interactive learning opportunities for adults.

### ***-Blended Learning***

Blended learning has the strengths of both online learning and face-to-face learning but it does not have their weaknesses. Some researchers believe that using blended learning approaches increases the level of active learning strategies, peer-to-peer learning strategies, and learner centred strategies (Collis, 2003; Morgan, 2002; Smelser, 2002). Blended learning combines the advantages of face-to-face and online

learning (Juhászová, 2011; Jungmann and May, 2009; Mironov *et al.*, 2012; Garnham and Kaleta, 2002). Blended learning provides a high level of flexibility (Mironov *et al.*, 2012; Garnham and Kaleta, 2002; Allan, 2007; Vaughan, 2007), enables the achievement of learning objectives more successfully than traditional courses do (Mironov *et al.*, 2012; Dziuban *et al.*, 2005; Garnham and Kaleta, 2002; Vaughan, 2007), increases enrolment retention (Mironov *et al.*, 2012), and increases interaction between learner-teacher, learner-learner, learner-content and learner-outside resources (Mironov *et al.*, 2012; Garnham and Kaleta, 2002; Aycock, 2002; Vaughan, 2007).

In this section, some examples of how blended learning has been used in e-learning training packages will be reviewed. Donnelly (2006) used a blended learning delivery made for her training module. She illustrates that the synergy that occurs in the face-to-face session cannot be replicated by a computer. However, she believes that the online environment communication tools, including discussion boards, chat rooms and e-mail, were necessary to expand the spontaneity and momentum of the PBL group experience that was achieved face-to-face. The first half of the module was delivered face-to-face, which was complemented with online activities. The rest of the module was delivered entirely online.

Fresen *et al.* (2006) reported a number of training courses run in the University of Pretoria, South Africa for academic staff. These courses ranged from induction to educational innovation and e-learning. The e-learning training programmes aimed to equip academic staff with the skills needed to use WebCT and facilitate e-learning. Moreover, there is a team called “e-Education”; this team arranges regular short courses for academic staff to teach them how to prepare instructional materials for online courses and how to monitor online collaboration in WebCT. These courses aimed to:

- Prepare basic study material for the web;
- Add content to existing web-supported courses;

- Maintain and update existing web-supported courses;
- Build web-supported courses using the full range of designer functions;
- Facilitate and monitor online collaboration and interactivity;
- Have full control over the development and maintenance of web-supported courses;
- Plan, develop, implement and facilitate web-supported learning in the context of a blended learning model (Fresen *et al.*, 2006, p.93).

Fresen *et al.* (2006) list a number of e-learning training courses in WebCT offered to academic staff members namely 'WebCT High Impact course, WebCT Intermediate, WebCT Designer, and WebCT Vista'. All these courses are delivered face-to-face.

Another course was highlighted by Fresen *et al.* (2006) called 'Facilitation of eLearning'. This course uses a blended learning environment. Although Fresen *et al.* (2006) did not mention any rationale for using a blended environment, it seems reasonable to conclude that using such an environment was purposive. The training programme mainly aimed to equip the academic staff with the skills of teaching in different settings: face-to-face, online and blended.

Littlejohn (2002) used a blended approach to deliver a continuing professional development course for academic staff on Web-based Teaching. This course was conducted in four stages, each stage started with one day face-to-face and was completed by e-mails and online discussions.

### ***-Face-to-face Delivery***

Panayiotidis and Masikunas (n.d.) reported Kingston University's Pathfinder project called 'a Staff Mentoring Scheme' that aimed to embed new learning technologies for academic staff. This project emphasised utilising a range of mobile classroom technologies in order to enhance in-class diagnostic and formative assessment and feedback (Panaviotidis and Masikunas, n.d.). In this project, thirteen participants from seven faculties were recruited to work under the supervision of two staff mentors. These two staff mentors had expertise and experience in the use of mobile technologies in lectures, and teaching academics. The project was delivered face-to-face

and conducted in three stages. First, there was an introductory meeting between the two mentors and academic staff to present and discuss ideas from their experience, and to organise the dates and times of individual meetings to discuss each academic staff member's plans. Secondly, individual meetings were held to discuss each participant's plan for using mobile technologies in their teaching. This stage identified the support and training needs of the participants, and advised on the planning of implementations and using the appropriate technologies. Thirdly, a monthly meeting with all academic staff was held to foster sharing of experiences, discussions and reflections.

Reviewing the advantages and the disadvantages of each delivery mode, it could be argued that using blended delivery would be more effective than having either face-to-face or online delivery by its own. It is suggested that using blended delivery in the proposed training package provides an opportunity for the participants to examine each delivery mode and decide what is best for their students.

### **5.2.3. Duration and Time**

Duration and time are other key concerns or factors that disable the implementation and success of any e-learning training package. Many researchers, such as Newton (2003); Almuqayteeb (2009); Bolliger and Wasilik (2009); Badage *et al.* (2005); Birch and Burnett (2009); Albalawi (2007); Ziyadah (2012); Alhazzani (2013), have discussed lack of time and how it negatively impacts any training course (see chapter 2 for more details).

In the training needs analysis the academic staff were asked questions about duration and time because it was hypothesised that this would be an important factor that would influence their attendance. However, in reviewing the literature it became evident that very few authors discuss issues of either duration or time, or give a detailed

rationale for the duration and time of their training. In this section the few examples that have been found will be reviewed.

Fitzgibbon and Jones (2004) found that six weeks were insufficient for the e-moderating course for academic staff at the university of Glamorgan. The evaluation of a virtual course of e-learning for the academic staff in the UK reviewed by Banks *et al.* (2004) suggests that the participants are likely to take more time than the designer may anticipate. Therefore, it would be recommended to allow at least 30 hours for future workshops. Fitzgibbon and Jones (2004) also faced the problem of holding the training at the beginning of the academic term, when the staff were already busy with enrolment duties, delivery of their traditional on-campus induction and preparing for the new semester (Fitzgibbon and Jones, 2004). Good timing and reasonable duration for training should be taken into account when designing an e-learning training package.

The online PBL module reported by Donnelly (2006) took place over 10 weeks. The first five weeks were face-to-face. However, there were some online activities during these five weeks. For example, there was 'pre-induction activity online that lasted for a week in the beginning of the module. The pre-induction activity aimed to offer:

- Introductions to fellow cohort participants
- Personalising profiles on home pages
- Ensuring base line competence: completing an online tutorial (Donnelly, 2006: p.98)

There was also a 3-hour-long face-to-face session that aimed to ensure that all the participants could use the online learning environment easily and had familiarised themselves with the PBL approach. Following this, there was an online induction for one week to ensure that the group bonding was being continued. The rest of the module was presented in two parts. In the first, the participants worked on resolving problems, and then they had one hour to present their work via videoconference.



The training courses run by the e-Education team in the University of Pretoria, South Africa, outlined by Fresen *et al.* (2006) were short, ranging from 45 minutes (lunch time) to several weeks. The shortest one, a WebCT Vista session that ran for 45 minutes during lunch time emphasised one tool of WebCT enterprise systems. 'WebCT High Impact' course and WebCT Intermediate courses were one day each. The WebCT High Impact course stressed teaching, and learning models and how the instructor's role has been changed in the WebCT environment with basic WebCT skills. The 'WebCT Intermediate' course taught how to add content and build online courses. The 'WebCT Designer' course took place over two days and focused at an advanced level on all the WebCT designer tools and functions. The longest course, 'Facilitation of e-learning' had 10 days of online interaction before they met the trainers, two days of face-to-face workshops and a four weeks post-course online component.

The 'Staff Mentoring Scheme' reported by Panayiotidis and Masikunas (n.d.) mentioned that there was no pre-determined duration for the project. This is because it was run on a one-to-one basis, so each participant had a different plan that required a different number of meetings with the mentors to provide advice on planning, designing and producing the appropriate interactive parts for each lecture or in-class assessment.

One of the longest training programmes was reported by Littlejohn (2002). The training programme, which lasted for four months in total, was offered to academic staff over four years on a variety of subject disciplines with some degree of success (see chapter 6).

Alsofyani *et al.* (2012) conducted and evaluated a short blended online training programme. Their training took place over three days, lasting for 180 minute each day. They did not give details of the first day's timing. However, the second and third days'

timing were detailed. They divided the second and third days into demonstration (30 minutes), practice (100 minutes) and feedback (50 minutes).

The reviewed literature neither gives a rule to follow when deciding the duration or the timing of training nor justifies the rationale of picking a certain duration. It seems that each training package has different conditions and boundaries that must be respected when proposing the most appropriate timing or duration. To conclude, it is suggested that the general rule for the timing is finding the most suitable time of the year for the target group where the majority of them would be able to attend. For the duration, a number of factors have to be taken into account including the time necessary to cover all the components of the proposed content, preferences of the participants and funding.

#### **5.2.4. Pedagogy**

Many projects have either not mentioned the theory or the model they have applied or they have briefly mentioned that their training design was influenced by a particular theory (Gunn *et al.*, 1999; Kou and Wan, 2009; Panayiotidis and Masikunas, n.d.; Cornelius and Macdonald, 2008). Very few studies have therefore talked in any great detail about whether and how theory has informed the design of their training package. Exceptions include studies by Fresen *et al.* (2006); Alsofayani *et al.* (2012); Donnelly (2006); Littlejohn (2002) and Salmon (2008).

Fresen *et al.* (2006) emphasised the pedagogy used in one of the courses offered by the e-Education team to the academic staff at the University of Pretoria, South Africa. They indicated that the ‘facilitation of e-learning’ training course applied the experiential learning approach where the academic staff could experience an online learning environment as students. The academic staff members had “ample opportunity to practice the skills they need to facilitate online learning, share ideas with colleagues

and develop their own preliminary plans for courses and activities they plan to offer via the Internet” (Fresen *et al.*, 2006, p.93).

Alsofyani *et al.* (2012) used adult learning theories in the design of the training programme for faculty members. They included a table that showed the principles of the theory and how they covered them (Alsofyani *et al.*, 2012, p.22) (see Table 5.1.).

Online programs for adults should provide	How the training addressed the adult learning principles
An interactive process of extending adults’ previous knowledge and transferring their new knowledge and skills to the workplace (Knowles, 1973; Vanderbilt, 2008).	Previous experience of faculty in face-to-face classes was extended to cover blended classes
Useful, relevant and practical training (Knowles, 1973; Vanderbilt, 2008).	<ul style="list-style-type: none"> <li>- Selecting a training topic related to design and development of blended online course to create a useful training</li> <li>- Using TPACK to design the training for social science faculty to create a relevant training</li> <li>- Using short training to enhance the practicality</li> </ul>
Rich training experiences (Knowles, 1973; Vanderbilt, 2008).	Using presentation-demonstration-practice and feedback to provide rich training experiences
Safe environment to facilitate interaction and communication between learners and instructors as well as among learners (Bailey and Card, 2009; Vanderbilt, 2008).	Using SBOT to create a safe environment
Support, guidance (Bailey and Card, 2009) and encouragement (Knowles, 1973; Vanderbilt, 2008).	Instructor-led training, presentation slides, demonstration, design based template and WIM to provide support and guidance
Feedback that confirms, corrects or informs participants (Bailey and Card, 2009; Knowles, 1973; Vanderbilt, 2008).	Providing constructive feedback at the end of each training session to confirm, correct or inform participants.
Table 5.1. : Addressing adult learning principles during the design of short blended online training (Alsofyani <i>et al.</i> 2012)	

The e-learning training packages designed by Donnelly (2006); Littlejohn (2002) and Salmon (2008) draw on constructivist theories. For example, in her 10-week module for academic staff from a range of universities in the Republic of Ireland, Donnelly (2006) used a blended approach, combining face-to-face teaching underpinned by the pedagogy of PBL, with online learning underpinned by constructivism. Donnelly (2006) focused on learners (teachers) constructing knowledge and understanding through related activities. For Donnelly, learning by doing was facilitated by reflection and task-based activities. Although Donnelly does not make a

distinction between cognitive and social constructivism, there is evidence that her module is influenced by social constructivism. In addition to referring to Vygotsky's theory of constructivism, she emphasises the crucial role that social interaction plays in the development of cognition, and argues that "interaction is a critical component in such a constructivist online learning environment, as provided by this module, because learning occurs in a social context through collaboration, negotiation, debate and peer review" (Donnelly, 2006: p. 97).

Donnelly implies that attention was paid to the ZPD of the trainees and to scaffolding, by stating that the trainees entered the module with great differences in their past learning and experiences in e-learning and PBL. Therefore they needed a pedagogical approach that embraced the constructivist theory, so that the trainees could consolidate their previous knowledge and receive support to build new learning and integrate new learning with prior knowledge. However, she gives little or no detail about the exact level of prior knowledge and experience of the trainees.

Another example of e-learning continuing professional development or training offered to academic staff and underpinned by constructivism is that described by Littlejohn (2002). In her evaluation of the success of the programme that was offered to academic staff from different disciplines over four years, Littlejohn concluded that the limitations were not related to the theory; rather the success of the training was limited because of the participants' focus on IT issues instead of concentrating on course design. Littlejohn, therefore, aimed to make some practical improvements to the design and provision of continuing professional development programmes, including: "Placing dialogue and feedback [as] central to course design" (Littlejohn, 2002: p. 167). The author argues that social constructivism could facilitate learning development through the medium of discussion. Littlejohn (2002: p. 167) believes that: "It is often a failure in online course design to recognise the social dimension of learning, resulting in online

courses in which learners, with limited opportunity for effective dialogue, remain isolated and unsupported”. Though this shift from individual constructivism to social constructivism has some limitations, “it provided a painless introduction to learning theory and provided a good basis for participants’ design of online student activities” (Littlejohn, 2002: p.172).

Once the programme was completed with new recommendations, the author evaluated the impact of each recommendation on its own, using a semi-structured questionnaire, and responses were subsequently discussed in groups. A semi-structured focus group interview subsequently took place, lasting 45 minutes. The result of the evaluation indicated that, in general, implementation of the key recommendations resulted in a more effective continuous professional development programme, based on the quality of the online courses produced during the module. According to Littlejohn (2002: p. 173), “These courses demonstrated a much greater adherence to new teaching and learning methodologies than had been accomplished previously”.

At the University of Leicester, Salmon *et al.* (2008) conducted a course design intervention entitled ‘CARPE DIEM’, which aimed to overcome the issues of capacity building in e-learning design across different disciplines and modes of learning. This intervention taught lecturers how to use a VLE, using Salmon’s five-stage model of e-moderating and e-tivities (Salmon *et al.* 2008). This model incorporated aspects of social constructivism, where participants had to build purposeful, learner-centred and peer-reviewed e-tivities based on a storyboard, online in the VLE, collaboratively, in a team approach. The lecturer teams found that the team approach to course design in this intervention was helpful, as they worked collegially and completed the course with an increased understanding of the pedagogy relevant to them, via purposeful, learner-centred and peer-reviewed e-tivities. They learned how to make better use of VLE features in their own context. Their confidence and willingness to try out new designs in

their teaching increased, as did their ability to generate and integrate new e-tivities into their courses. Thus, the intervention of CARPE DIEM proved its effectiveness and appropriateness in building capability on a learner-centred e-learning course (Salmon *et al.* 2008). This course enjoyed wide success and was taken up by another ten higher education institutions, which learned from each other, with initial encouraging results (Salmon *et al.*, 2008).

### **5.3. The proposal for an academic staff training package**

In this section, the design of a training package to meet the technological and pedagogical needs of academic staff in KFU will be reviewed. The design of the training package is informed by data from the needs analysis survey and the review of the literature on e-learning training.

#### **5.3.1. Content**

The analysis of academic staff needs has revealed that they need a training focused on both technical and pedagogical skills to improve their teaching with e-learning. This finding is in line with the literature (Donnelly, 2006; Wilson and Stacey, 2003; Rienties and Brouwer, 2013; Almuqayteeb, 2009; Ebert-May *et al.*, 2011; Littlejohn, 2002; Kou and Wan, 2009, Alvarez *et al.*, 2009; Westerman and Barry, 2009; Committee of Inquiry into the Changing Learner Experience, 2009; Rienties and Townsend, 2012; Salmon *et al.*, 2008). In the questionnaires it was found that the most desired e-learning system was Online Exam System (n= 54, 78.3 %) and second most desired system was learning management system (n= 47, 68.1 %) (See Table 5.2.). All the suggested contents of the training course are extremely desired with high rates (more than 50%); however, the most preferred piece of content was meaningful use of e-learning in teaching to include theory, strategy, objectives, planning, activities, assessment and interaction (pedagogical skills). The second most preferred was basic

technological e-learning skills (see table 5.2.). In interviews, the participants mentioned a number of e-learning tools and systems such as Blackboard (n=11), WebCT (n=4) and online examinations (n=3). Comparing the findings from the questionnaire and the interviews, two overlapping preferences emerged, which were Blackboard Learning Management System and online examinations. Because online examinations is one of the facilities available through Blackboard, the latter system was selected to be the focus of the training package.

Questions	Yes		No	
	n	%	n	%
E-learning systems:				
- Learning Management System (e.g. Blackboard/WebCT)	47	68.1	22	31.9
- Virtual Classroom Synch. System (e.g. HP, IBM Lotus, Blackboard)	41	59.4	28	40.6
- Class Capturing/Recording System (e.g. echo)	40	58.0	29	42.0
- Authoring Tool and Content Management Systems	45	65.2	24	34.8
- Online Exam System	54	78.3	15	21.7
- Other	2	2.9	67	97.1
Content:				
- Introduction of e-learning systems	37	53.6	32	46.4
- Basic e-learning technological skills	52	75.4	17	24.6
- Meaningful use of e-learning in teaching e.g., theory/strategy/objective/plan/activities/assessment/interaction	59	85.5	10	14.5
-Tutor and learner roles in e-learning systems	44	63.8	25	36.2

Table 5.2. : Training package preferences regarding content

### 5.3.2. Delivery

Firstly, from analysis of academic staff needs and preferences (questionnaires), it was found that the participants prefer to learn via blended learning (face-to-face and online) delivery (n=40; 58.0%) (See Table 5.3.). In the interviews, the participants mentioned two options, which were receiving the training entirely face-to-face (7 of 17), and blended (9 of 17). Secondly, the literature review suggests using blended delivery when offering a training package on e-learning (Donnelly, 2006; Fresen *et al.*,

2006; Littlejohn, 2002). With these considerations in mind, the training that was proposed applied blended learning which includes face-to-face interaction and online activities.

Question	Response	
	n	%
Delivery:		
Entirely online	3	4.3
Entirely face-to-face	26	37.7
Blended (online and face-to-face)	40	58.0

Table 5.3. : Training package preferences of delivery

### 5.3.3. Duration and Time

The academic staff preferences regarding the duration and the time of the training agreed with the recommendations of the literature reviewed (Fitzgibbon and Jones, 2004; Banks *et al.*, 2004; Fresen *et al.*, 2006; Littlejohn 2002). In the questionnaires, the majority of the participants agreed that 2-4 weeks (n=53, 76.8%) only would be the most suitable duration to attend the training and the best time to learn is the beginning of the term (n= 47, 68.1%) (See Table 5.4.). In the interviews, the participants (10 of 17) preferred that the duration of training should be from 1-4 weeks. Moreover, in trying to get permission from the Deanship of Academic Development to run the training package the researcher was informed that any training had to last no more than two weeks and have no delay in the implementation of the training after the fifth week of the term. Based on that requirement, the training package was implemented in two weeks in February 2012 (starting in week four of the second semester). During the first week, the training ran for four hours every work-day in the afternoon (4 p.m -8 p.m). The technical content of the training package was originally intended to be delivered over five days but in reality it was conducted in four days as requested by the Deanship of Academic Development. However, none of the content was reduced. In the second



week also, there were four hours every work-day in the morning (8 a.m-12 a.m). The participants took a 30 minutes break in every day.

Question	Response	
	n	%
Time:		
At the beginning of the term	47	68.1
At the middle of the term	6	8.7
At the end of the term	9	13.0
At the holiday on my own time	7	10.1
Duration:		
2 ~ 4 weeks	53	76.8
5 ~ 8 weeks	13	18.8
9 ~ 12 weeks	3	4.3

Table 5.4.: Training package preferences of duration and time

## 5.4. The description of the proposed training package

This third part will describe how the training package was designed to take into account the results from the training needs analysis and key issues in the training literature.

### 5.4.1. Pedagogy

In chapter two the strong tradition of using both cognitive and social constructivist approaches in e-learning with students was outlined. Although there is not such a strong tradition for using these theories in e-learning training packages for academic staff it is hypothesised that it would be helpful to use both approaches in the design of the proposed e-learning training package. This is further supported by the argument that “educational technology has moved from a behaviourist to a constructivist perspective” (Littlejohn, 2002, p.166). In order to encourage lecturers to use constructivism in their own e-learning practices, it would seem sensible to underpin

their e-learning training with constructivist principles. ‘Training by doing’ is the best practice as it provides the opportunity to experience the role of a learner in that environment. For example, Howard and McGee (2000) used constructivism to train teachers in constructivism, in order to give them the opportunity to experience the possibilities of technology for constructivist instruction.

From the reviewed literature on both constructivism theories (the cognitive and the social), it was decided to use a mixture of both types of constructivism, as appropriate in the training design (see Figure 5.1.). This is believed to give good opportunities to the participants to experience both types of constructivism. They can find out more about each type’s advantages and disadvantages so they would be able to pick the most appropriate for their own practice. For example, during the first part of the training where individual practice on Blackboard was needed, cognitive constructivism was used. On the other hand, social constructivism was applied for the teaching of the cooperative learning tools like wikis and the discussion forums where trainees could communicate, discuss, negotiate and collaborate, through the online activities (see Table 5.5.). Vygotsky suggests that a learner would start learning socially in a group (inter-mental plane) and become individually capable (intra-mental plane) as they became more informed over time. This was reflected in the design of the training offered at KFU in that every day for both weeks, trainees were offered a range of opportunities (like discussion exercises) to learn socially in groups. This was then followed by opportunity for individual reflection where trainees were encouraged to assimilate and internalise what they learnt from the social interactions and reflect on how they would use this in their own individual teaching practice.

It is suggested that the needs analysis of the questionnaires and the interviews (Phase One) had enabled the researcher to develop a general knowledge about the gap (ZPD) in the participants' e-learning skills. The participants had problems in using

Blackboard's technical features in general as well as in employing it effectively in their teaching. Part one of the training package focused on providing the necessary scaffold to the trainees to go beyond their ZPD. It provided them with the basic knowledge and experience with Blackboard tools in order to underpin their new e-learning experience that they might construct in part two of the training package. The scaffolding was provided through lectures, the technical aspects activities, hands outs, video clips, group discussion and group activities. At the end of part one of the training package, the lecturers were expected to:

- (Learning Outcome (LO)1) Understand the potentials of a learning management system;
- (LO2) Be able to use the Blackboard's content tools;
- (LO3) Be able to use the Blackboard's collaboration tools;
- (LO4) Be able to use the Blackboard's evaluation tools; and
- (LO5) Be able to use the Blackboard's grade centre.

The training was designed using constructivist principles. The overall aim of part two was therefore to support lecturers to construct (build) their own ideas and understanding of what effective e-learning means for them. The associated learning outcomes of part two were therefore to enable lecturers to:

- (LO1) Build on their prior knowledge and experience (including part one of the training package)
- (LO2) Reflect on and discuss their personal observations and experiences
- (LO3) Form their own ideas/hypotheses about how they might use e-learning in their own teaching
- (LO4) Plan how they might test these ideas and put them into practice

A key aspect of constructivism is focusing on an issue or problem that learners are trying to solve or address. These problems or issues allow learners the opportunity to take ownership of their learning and apply knowledge in a meaningful way. In the context of part two of this training package, the problems or issues that lecturers were trying to address were:

- Should I use e-learning in my teaching here at KFU?
- How can I use e-learning effectively in my teaching?

Key Elements	Cognitive constructivism	Social constructivism	Both
Lecturing delivery of content			<ul style="list-style-type: none"> <li>- Introduction to Blackboard and Management and communication tools (Day 1)</li> <li>- Content Tools (Day 2)</li> <li>- Blackboard Collaboration Tools (Day 3)</li> <li>- Blackboard Evaluation Tools (Day 4)</li> <li>- Grade Centre (Day 5)</li> <li>- A focus on e-learning from a university perspective (Day 6)</li> <li>- A focus on e-learning from a student perspective (Day 7)</li> <li>- A focus on e-learning from a lecturer perspective (Day 8)</li> <li>- A focus on the pedagogy of e-learning (Day 9)</li> <li>- A focus on the planning and design of e-learning (Day 10)</li> </ul>
Practical exercises	<ul style="list-style-type: none"> <li>- Introduction to Blackboard and Management and communication tools (Day 1)</li> <li>- Content Tools (Day 2)</li> <li>- Blackboard Collaboration Tools (Day 3)</li> <li>- Evaluation Tools Blackboard (Day 4)</li> <li>- Grade Center (Day 5)</li> </ul>		
Individual reflection, discussion and collaborative work groups, feedback	<ul style="list-style-type: none"> <li>-End of day Individual reflection (Feedback) (Day 1-10)</li> <li>- Individual reflection Exercise five (Day 8)</li> </ul>	<ul style="list-style-type: none"> <li>- Exercise Two (Day 6)</li> <li>- Exercise Three (Day 7)</li> <li>- Exercise Four (Day 7)</li> <li>- Exercise six (Day 8)</li> <li>- Exercise seven (Day 8)</li> <li>- Exercise nine (Day 9)</li> <li>- Exercise ten (Day 9)</li> <li>- Exercise eleven (Day 10)</li> <li>- Exercise twelve (Day 10)</li> <li>- The trainees had the opportunity at the end of the day (days 1-5) to discuss in pairs/small groups (3-5) what they had learned.</li> </ul>	<ul style="list-style-type: none"> <li>- Exercise One (Day 6)</li> <li>- Exercise eight (Day 9)</li> </ul>
Online activities	<ul style="list-style-type: none"> <li>- Assignment activity in Blackboard (Day 3)</li> </ul>	<ul style="list-style-type: none"> <li>-Wiki activity in Blackboard (Day 3)</li> <li>-Chat activity in Blackboard (Day 3)</li> <li>-Discussion groups activity in Blackboard (Day 3)</li> </ul>	
Support	Technical support (Day 1-10)		
Question & Answer (Q&A) session and discussion			<ul style="list-style-type: none"> <li>- Lecturers were asked to reflect on and discuss the following questions</li> <li>1- From what we have covered today, what are your thoughts on the two questions posed earlier?</li> <li>2- Should I use e-learning in my teaching here at KFU?</li> <li>3- How can I use e-learning effectively in my teaching at KFU?</li> <li>What, if anything, might you need to do after this session to follow up on the ideas and issues raised? (end of the day -6-10)</li> <li>-The trainees had the opportunity to ask any questions publicly or privately with the trainer (end of the day 1-10). (Day 1-10)</li> </ul>

Table 5.5.: Content of cognitive and social constructivism activities in the training package

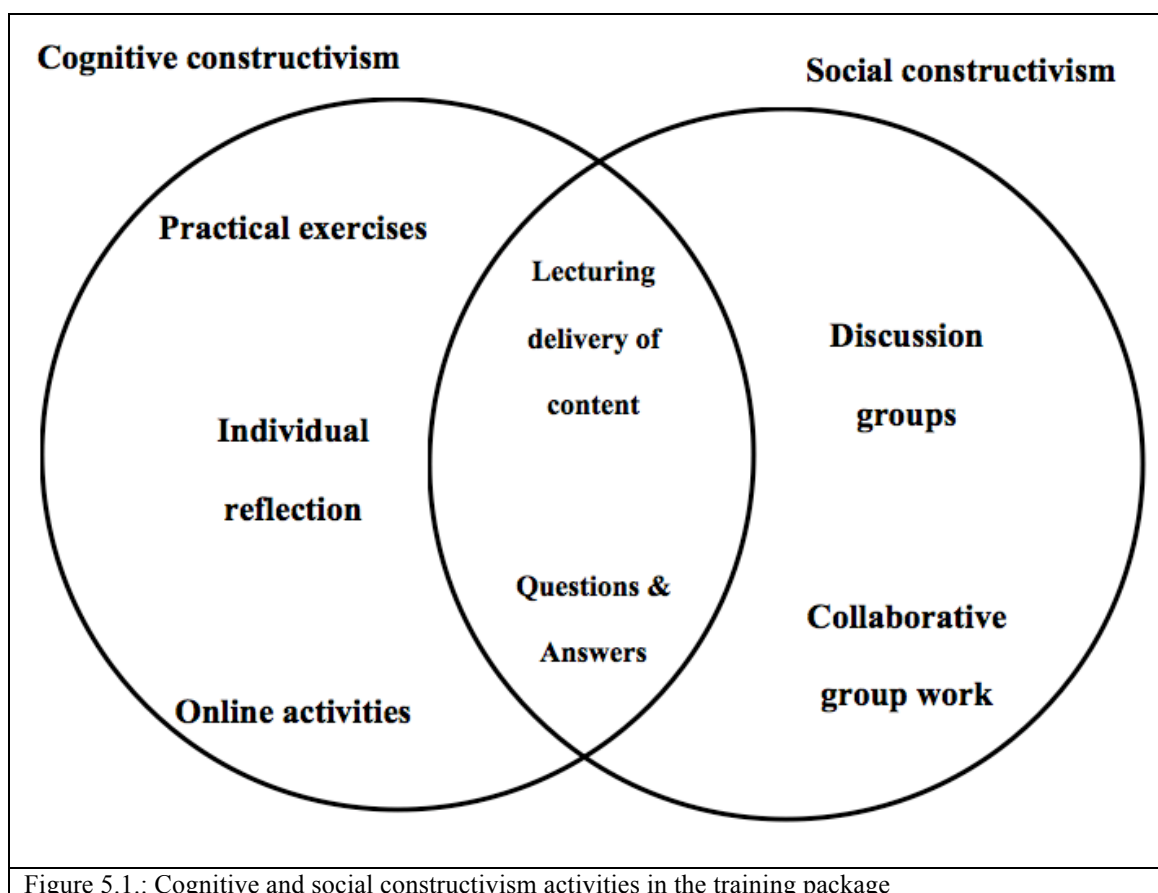


Figure 5.1.: Cognitive and social constructivism activities in the training package

## 5.4.2. Content

The training package was designed in three parts. Part one covered technical skills. Part two covered pedagogical aspects of using e-learning. Part three gave academic staff an opportunity to experience e-learning as students.

### 5.4.2.1. Part 1 (*Face-to-Face/ technical Skills*)

This part took place in a computer lab where every participant sat at a computer and practised what was being explained. This part was introduced in Arabic and delivered by the researcher (Ahmed Al Mulhem). The female participants were also in another lab in the female section of the university and they watched the workshop via videoconference. In this part, the academic staff learned about Blackboard including introduction to Blackboard and management and communication tools, content tools,

collaboration tools, and grade centre. These skills were selected to be included in the training because:

- They are the basic and intermediate skills of Blackboard use as recommended by the Blackboard Company.
- It was already known that the lecturers would have access to these tools and also be expected to use them.

In this section the content of each of the five days will be described in more detail.

#### **5.4.2.1.1. Day 1**

The day started with an introduction of the training package and an outline of the needs analysis findings (phase 1). A brief review of Learning Management System in general and Blackboard in particular was presented. Then, the pre-questionnaire was distributed (See chapter 6). Some basic skills to get started using Blackboard were introduced, including course availability settings, enrolling a new user, displaying all enrolled users, removing a user, announcing, calendar, chat/virtual classroom and sending an e-mail. Once all the activities were completed, a discussion session and individual reflection were conducted in order to get the participants talking together and using dialogue to learn. At the end of the day, the participants were allowed time to ask questions and get answers to ensure all of them were happy and confident about what they learned on that day (See Table 5.6.).

#### **5.4.2.1.2. Day 2**

The second day was another purely technical day. However, it covered new, more advanced skills of Blackboard use. These skills focused on the content area of Blackboard, which included the module page, content areas page, blank page, tool link, course link, external link, learning module, a syllabus, items, files, folder, audio, image, video, URLs and Mashups. Just like the first day, after the technical part, there were a

discussion session and individual reflection and at the end there was a question and answer session (See Table 5.7.).

#### **5.4.2.1.3. Day 3**

On the third day, Blackboard collaboration tools, the discussion board, wikis and blogs were considered (see Table 5.8.). There was also some practical work, as well as discussion sessions, individual reflection and question and answer time.

#### **5.4.2.1.4. Day 4**

The fourth day of the first week focused on Blackboard evaluation tools. The Blackboard evaluation tools included assignments, tests, surveys, pools and questions (see Table 5.9.). It also included some practical training, discussion sessions, individual reflection and the question and answer session.

#### **5.4.2.1.5. Day 5**

The last day of the first week focused on Blackboard grade centre including creating columns, inputting grades, creating weighted columns, organizing your grade centre, smart views, grading colour codes, working offline/ downloading the grade centre, uploading grades into the grade centre, and submitting final grades to the registrar. There were discussion sessions, individual reflection, and the question and answer session (See Table 5.10.).

#### **5.4.2.2. Part 2 (*Face-to-Face/ Pedagogical Skills*)**

The focus of part one of the training package was on technical aspects of e-learning. Lecturers were therefore given an opportunity to gain practical experience of using Blackboard, a standard e-learning tool in the university. Part two aimed to build on this practical experience by focusing on the pedagogical aspects of e-learning. This part was introduced in English and delivered by Professor Jane Seale (The involvement of the researcher's supervisor in the delivery of the training was a condition of the

permission given by Vice President for Development and Community Service when agreeing to allow the conduct of the study in KFU). This part of the training did not need computers for participants so the training ran in a training workshop room that was equipped with one lap-top, projector, microphones, speakers and the video conference that connected male and female participants.

The content of part two of the training package was designed to encourage lecturers to engage with the question: ‘What makes for effective use of e-learning?’ and to critically evaluate the following argument:

E-learning is effective in universities when:

- 1) Universities support the use of e-learning (session 1)
- 2) Students want to and are able to use e-learning (session 2)
- 3) Lecturers want to and are able to use e-learning in pedagogically effective ways (sessions 3, 4 and 5)

Research evidence, educational theories and examples derived from practical, real experience were used to encourage lecturers to evaluate critically what makes e-learning effective, from a university, lecturer and student perspective. The training involved a mixture of lectures, workshops (small group work) and individual reflection in order to encourage attendees to apply what they had learned in the lectures to their own individual and collective experience and practice.

#### **5.4.2.2.1. Day 6**

The sixth day of the training was the first day of part two of the training package. At the beginning, Professor Seale introduced e-learning in general and then the aim of the training package with a brief overview of the whole training package including the theory that was applied in the training. Professor Seale delivered a lecture that discussed



the reasons why and the methods whereby the academic staff at KFU should use e-learning in their teaching. The discussion included examples.

- Should I use e-learning in my teaching here at KFU?
- How can I use e-learning effectively in my teaching at KFU?
- Why are universities using e-learning?
  - 1- From a UK universities perspective
  - 2- From a US universities perspective
  - 3- From an Australian universities perspective
  - 4- An example: Hong Kong
  - 5- From a Gulf State universities perspective
- Why is the institutional (university) perspective important?

There were some discussion and individual reflection activities during the lecture. At the end of the day, the participants were required to fill in an individual reflection form and allowed to ask questions and get answered just the same as in the first part of the training package (See Table 5.11.). However, they were required to think about the following questions:

- From what we have covered today, what are your thoughts on the two questions I posed for you yesterday?
  - Should I use e-learning in my teaching here at KFU?
  - How can I use e-learning effectively in my teaching at KFU?
- What, if anything, might you need to do after this session to follow up on the ideas and issues raised?

#### **5.4.2.2.2. Day 7**

The second day of part two highlighted e-learning from the perspective of the students. The lecture tried to answer the following questions:

- What do we know about the e-learning skills, experiences and attitudes of university students?
- What do we know about students in Saudi Arabia?

Some group exercises and discussion were conducted throughout the lecture. At the end of the day there was another group discussion followed by individual reflection about the whole day (See Table 5.12.). The participants had the opportunity to ask questions and get answers after thinking about the following questions:

- From what we have covered today, what are your thoughts on the two questions I posed for you yesterday?
  - Should I use e-learning in my teaching here at KFU?
  - How can I use e-learning effectively in my teaching at KFU?
- What, if anything, might you need to do after this session to follow up on the ideas and issues raised?

#### **5.4.2.2.3. Day 8**

The third day of part two of the training package aimed at focusing on e-learning from the lecturer's perspective. The lecture provided an overview of research and practice literature, with examples, to describe and evaluate what lecturers think is good and bad about the use of e-learning in university with special reference to research in Saudi Arabia universities. Similarly to the other days there were group exercises, group discussion, Individual reflection and a question and answer session (See Table 5.13.). The participants were encouraged to think about the following questions:

- Should I use e-learning in my teaching here at KFU?

- How can I use e-learning effectively in my teaching at KFU?
- What, if anything, might you need to do after this session to follow up on the ideas and issues raised.

#### **5.4.2.2.4. Day 9**

Day four in the second week of the training introduced an overview of common pedagogical approaches (Associative, Constructive (individual), Constructive (social) and Situative). There were also examples of how e-learning can be used to apply each of these approaches and discussion of how you can underpin your own e-learning approaches with pedagogy. Exercises, discussions, individual reflection and question and answer session were provided (See Table 5.14.).

#### **5.4.2.2.5. Day 10**

The last day of the training was a practical day which focused on teaching the lecturers about planning and designing an e-learning lesson. The lecture gave a lot of help and tips for teachers about how to use constructivism to manage their e-learning teaching. Again group exercises, discussions, individual reflection, and question and answer session were delivered (See Table 5.15.).

#### **5.4.2.3. Part 3 (*Online activities*)**

This part of the training was delivered at the same time as the first week of the package. The participants were asked to participate in different online activities to ensure that they had experienced the role of students in the blended learning environment. The online activities were:

##### **- Chat:**

The time of chat was in the middle of the first week, specifically on the morning of the third day from 11:00 to 1:00 to provide assistance and support to participants regarding any problems or concerns about using Blackboard.

**- Wiki:**

At the end of the third day of the first week and after teaching how to deal with the wiki, a wiki page had been created and academic staff, who behaved as students here, were asked to collaborate in collecting 20 definitions of e-learning, in a mixture of Arabic and English.

**- Discussion Forum:**

At the end of the third day a thread was in the discussion forum which contained this question:

What are your ideas and suggestions for implementing what you have learned from training package with your students?

**- Assignment**

The academic staff (or students) were asked to submit an assignment about the stimulus of using e-learning (about 100-150 words) on Blackboard.

## **5.5. Summary**

This chapter has reviewed and discussed the literature on academic staff e-learning training packages. The review of the literature has highlighted the content, delivery, duration and time, and pedagogy of these training programmes. This review has indicated that the best training content would be if both technical and pedagogical aspects of e-learning were taken into account when designing a training package. The blended delivery mode was indicated as the best one. Longer training programmes were preferred as more useful than short ones. Most of the training programmes shown in this chapter demonstrated that a learning environment based on constructivism theory is very popular and useful in the e-learning field. The proposal for the experimental training package has been outlined, based on the needs analysis from chapter 4 and best

practice available in the literature. Later a detailed account of each day of training package has been presented.

# **Chapter 6:**

# **Evaluation**

## **Methodology (Phase**

## **2)**

## **6. Evaluation Methodology (Phase two)**

### **6.1. Introduction**

This chapter will address the research design and methodology used in phase two of this study. The sampling and recruitment methods as well as the characteristics of the participants in phase 2 will be described. The evaluation tools used by e-learning training projects that have been reported in the research literature will also be reviewed. This review will be used to provide a justification for the design of evaluation tools in the experimental training package. The tools that were designed to evaluate the success of the training package will then be described. Moreover, this chapter will answer the two parts of the second sub-question, which is: “How can the e-learning training needs of the academic staff in the faculty of education at KFU be effectively addressed?”

- What influence does engaging in an e-learning training package have on the practice of academic staff at KFU?
- How do academic staff respond to the design characteristics of the e-learning package?

### **6.2. Sample of Phase 2**

#### **6.2.1. Sampling and recruitment**

This researcher was interested in all academic staff in the Faculty of Education at KFU in Al Ahsa. The researcher obtained all the required permissions from the Vice President of the Development Community before starting the implementation of the training package. Permission was conditional however on the training being made available to all staff at KFU and not just staff in the faculty of Education. A second condition was that part two of the training package be delivered by the researcher's supervisor, someone with experience in e-learning.

The population from which the sample of participants in the training package was selected was therefore all academic staff in KFU. Two criteria for entry into the training package were applied. Firstly, that participants have basic skills in using the computer and Internet. Secondly, that for part two of the training participants can both speak and understand English, as this part would be delivered by a native English speaker (the researcher's supervisor). The deanship of academic development advertised the training package to all academic staff at KFU using three different methods. Firstly, the deanship announced the training package through its web page. Secondly, it sent an e-mail announcement about the training package for all academic staff. Thirdly, it send a letter to the dean of each faculty to ask them to nominate four to six academic staff to attend the training package.

Sixty-one participants were registered to attend the training package. On the first day of training, forty-nine lecturers attended the training package. On the second day of training, three participants withdrew without giving a reason. In total, only forty-six participants completed the training package (parts one and two).

### **6.2.2. Population and participants**

Table (6.1.) shows a description of the socio demographic characteristics of the participants, who came from different colleges and centres. As shown below, the largest groups of participants were from the College of Clinical Pharmacy (n=6) and the College of Medicine (n=6). Some colleges and centres sent only one participant each, such as the College of Engineering, the College of Veterinary Medicine, the Giftedness and Creativity Centre, and the Educational Development Deanship.



College and centres	Male	Female	Total
	n	n	n
College of Agriculture Science and Food	2	3	5
College of Science	2	3	5
College of Education	1	3	4
College of Computer Science and Information Technology	0	2	2
College of Clinical Pharmacy	4	2	6
College of Medicine	3	3	6
College of Engineering	1	0	1
College of Business Administration	4	0	4
College of Veterinary Medicine	1	0	1
College of Art	1	1	3
College of Applied Science and Community Service	1	0	1
Water Studies Centre	4	0	4
Translation and Composition Centre	3	0	3
Giftedness and Creativity Centre	1	0	1
Educational Development Deanship	0	1	1
Total	28	18	46

Table 6.1.: Description of Participants in Training Package (socio demographic)

### 6.3. A literature review of methods used to evaluate e-learning training packages

The evaluation methods of any training programme play a key role in judging the success of the training. Across the literature reviewed, researchers used either a single evaluation or multiple evaluation tools. Evaluation tools included questionnaires, interviews, observation, documents, reflective journals, feedback, and online interaction (Ooms *et al.*, 2008; Alsofyani *et al.*, 2012; Westerman and Barry, 2009; Salmon *et al.*, 2008; Donnelly, 2006; Littlejohn, 2002; Panayiotidis and Masikunas, (n.d.); Taylor, 2003; Cornelius and Macdonald, 2008). In this section, the evaluation tools used for training packages for academic staff will be reviewed.

### 6.3.1. Evaluation using a single tool

A small number of studies reported using a single evaluation tool. For example, Ooms *et al.* (2008) reported an evaluation study that measured the effectiveness and sustainability of using one e-developers' module in a university in southwest London. The e-developers' major job was to provide support to staff of the university when integrating blended learning in their teaching. More specifically, their roles were to engage in:

- Staff development in both the pedagogic and technical aspects of the VLE;
- Pedagogical support and advice to academic staff; and
- Technical support.

Regular meetings of e-developers and staff were held to convert the modules from traditional face-to-face teaching to blended delivery with significant proportions of face-to-face teaching and a considerable amount of online learning activities. In order to assess what worked and what did not, for whom and under what circumstances, realistic evaluation was applied. The advocates of realistic evaluation argue that "programs work ('have successful outcomes') only in so far as they introduce the appropriate ideas and opportunities ('mechanisms') to groups in the appropriate social and cultural conditions ('contexts')" (Pawson and Tilley 1997, p.57). The authors sought the views of four principal groups namely: course teams, educational technology leaders, the e-developers and the strategic leaders within the university's Academic Development Centre. Furthermore, semi-structured focus group interviews were held with the same four groups. The semi-structured interviews included four main areas, which were:

- Engagement (how have staff engaged with the projects?);
- Styles of working (what styles of working 'worked' across the different projects/ faculties? What has been the role of the educational technology leaders?);
- Influence (how influential have the e-developer projects been in the faculties?);
- Sustainability (how sustainable are the processes initiated by the e-developers? Are the 'e-developer resources' being used and developed by staff?).

Alsofyani *et al.* (2012) reviewed a preliminary evaluation of short blended online training for the development of technological, pedagogical and content knowledge. The authors used a questionnaire based on the Technology Acceptance Model (TAM) for the evaluation. The authors believe that the success of any training programme must be evaluated quantitatively. Thus, they chose TAM to assess short blended online training. Moreover, TAM can measure the participants' satisfaction with using online delivery as a medium of instruction. The authors used the latest version of TAM that included versions (TAM1, TAM2). TAM1 was developed by Davis (1989) and included two variables: perceived usefulness and perceived ease of use. Venkatesh and Davis (2000) expanded the tool (TAM2) by adding seven new variables, which are: the intention to use, subjective norm, voluntariness, image, job relevance, output quality and result demonstrability. The latest version (TAM3 or TAM) was expanded more by Lee *et al.* (2011) to include the following variables: task interdependence, computer self-efficacy, individuals' experience, task ambiguity, management support and organisational support. Alsofyani *et al.* (2012) used a TAM tool that included all the variables mentioned except task ambiguity and task interdependence. Alsofyani *et al.* (2012) translated TAM into Arabic and used SPSS 19 software for analysis purposes.

### **6.3.2. Evaluating using multiple tools**

Significantly more studies report using multiple evaluation tools than single tools. In the online PBL module reported by Donnelly (2006), "an integrative evaluation strategy recommended by Draper *et al.* (1996) and the Teaching with Independent Learning Technology Programme in 2001" (Donnelly, 2006; p.102), was used in her qualitative evaluation. Integrative evaluation is a combination of the structured experimental approach (emphasises controlling the factors that might influence learning and teaching) and the flexible illuminative approach (emphasises the description and the interpretation of the factors that might influence learning and teaching) (Oliver, 2000).

Donnelly (2006) justified her use of this evaluation strategy by arguing that it could be a comprehensive evaluation that assessed all the features of the training, including pedagogical orientation and potential weaknesses of the module design. She employed an online questionnaire that had mixed open-ended and closed questions and two face-to-face semi-structured focus groups. The questionnaire asked about three main elements, which were the module structure, the role of the tutor, and the PBL module's problems and content. Moreover, the questionnaire had some items about participants' perceptions of the online delivery mode and the educational implications of their patterns of utilizing the online PBL resources. Donnelly also used focus groups in her evaluation methodology. The first focus group interview was in the middle of the module to assess the participants' learning experiences to date. The second focus group took place a week after the end of the module with the same participants as the first one. The interviewees gave some feedback on the module and provided some suggestions on future module re-design and delivery. Donnelly (2006) also analysed the messages posted by the participants on the online communication tools, using Henri's (1992) analytical model. This model can provide a more detailed analysis of messages' nature for the researcher through classifying them as ". Participative (the number of messages sent by individuals); social (group cohesion and the sense of belonging); interactive (the way each message is linked to and/or generates others); cognitive (the way in which cognitive skills develop during the learning process) and metacognitive (the relationships between knowledge and capacity to plan, evaluate and reflect)" (Buckley and Donert, 2005, p.16). Moreover, this model analyses the content of individual messages at three levels: what was said, regarding discussion content; how it was said; and what processes and strategies were adopted in dealing with the contents (Donnelly, 2006). Donnelly (2006) believes that message analysis is important in order to evaluate the nature of participants' interaction during the training programme.

Taylor (2003) reported a staff development initiative at the USQ. The initiative included a number of stages (see chapter 5). After conducting the initial technical skills training, an evaluation was conducted to determine the gap in any computer knowledge or skills that may be missed by the staff. In order to evaluate the online package, two independent evaluation consultants administered an e-mail survey to 66 staff. Moreover, Taylor (2003) gained some quantitative data by analysing the record of the online site. Taylor (2003) fails however, to give a rationale for this approach, or any details of the questions asked.

In the continuing professional development course reviewed by Littlejohn (2002), a semi-structured questionnaire was administered to eight of a total of 13 participants who attended the training course. There was also a discussion group where the participants had the opportunity to discuss their responses. Moreover, a semi-structured group interview was held in order to record the participants' general comments on the programme. No details were given about what questions were asked and no rationale was given for this chosen evaluation method.

The training course conducted at the University of Leicester by Salmon *et al.* (2008) used three approaches for collecting data to evaluate the training course. Firstly, observations were conducted before, during and after the CARPE DIEM workshops. Observations involved taking notes and recording. The observations focused on all the different ways the participants engaged with activities, and on critical incidents, values and practices around course development before, during and after the CARPE DIEM workshops. Secondly, two semi-structured interviews were held with each volunteer participant (leaders and tutors). The first semi-structured interview (pre-interview) was conducted one month before the training course, and the second semi-structured interview (post-interview) after six weeks of the training course. Pre-interviews examined the participants' uses of and attitudes towards e-learning and the common e-

learning practices within their course team. The post- CARPE DIEM interview sought what the participants had learned from the workshop and how they might translate that into capability building. Thirdly, artefacts in the form of course designs and e-tivities produced by the participants during and after the workshops were collected and analysed.

Westerman and Barry (2009) reviewed a staff development programme that took place at the Canterbury Christ Church University, entitled “DEBUT” (Digital Experience Building in University Teaching), which aimed to “evaluate whether a situated, contextualised approach to staff development, grounded in the concepts of literacy, could be successful in raising the overall confidence of a group of academic staff in using and exploiting digital tools” (p.122). They believed that helping students in their e-learning experience requires helping their tutors first to be more aware of the digital world, more confident to employ its tools and flexible while the change process is in progress. At the beginning of the DEBUT training programme, participants were asked during an interview to select six digital tools (tools within VLE, Microsoft Office, web 2.0 tools (Netvibes, Flickr, and Delicious), podcasting and desk-top video conferencing) that they would like to know about. The interview also discussed their needs and context outside the training. Then the training delivered to the participants was based on the complexity and nature of the tool. The tools were experienced in hands-on workshops, or by demonstration workshops; or through one-to-one consultancy. To evaluate this training, a digital literacy scale based on Martin's elements of e-literacy was used at the beginning and the end of the project to measure the participants' progress on a digital literacy scale at the beginning and the end of the project (Westerman and Barry, 2009). The pre-, mid-, and end-course interviews were carried out to elicit the participants' views of the DEBUT training programme. Moreover, at the end of each software tool experience, the participants were also asked

to complete a questionnaire to assess the course and to provide their predictions on their future use of these tools.

Panayiotidis and Masikunas (n.d.) used the feedback and experiences given by the participants in the form of reflective journals and interviews in order to make any necessary changes needed in the advice that they provided. Unfortunately, Panayiotidis and Masikunas (n.d.) did not explain how or why they used the reflective journals and interviews.

Cornelius and Macdonald (2008) presented an evaluation research project to assess an online informal professional development forum for distance tutors at the Open University in Scotland. The aim of the research was to “examine who uses the forum, how and for what purposes, and explores some of the issues that affect the use of the forum within an online tutor’s professional role” (p.44). The authors used the archived discussion records that contained the number of messages posted, their contents, who opened them, and when from April 2003 to December 2005. These pieces of information were used for qualitative and quantitative analysis. Seeking more qualitative data, a qualitative questionnaire was emailed to 79 participants who opened the messages between September and November 2005. The questionnaire examined the tutors’ perceptions of the use of the forum.

#### **6.4. Critical summary and a proposal for an evaluation framework for the proposed e-learning training package**

The review of the literature about evaluation methods used to measure the effectiveness of training packages for academic staff showed two evaluation approaches:

1- Evaluation by a single tool (Ooms *et al.*, 2008; Alsofyani *et al.*, 2012)

2- Evaluation by a multiple tools (Westerman and Barry, 2009; Salmon *et al.*, 2008; Donnelly, 2006; Littlejohn, 2002; Panayiotidis and Masikunas, (n.d.); Taylor, 2003; Cornelius and Macdonald, 2008).

The authors used a number of different tools such as questionnaires interviews, focus groups, reflective journals, feedback, documents, and online interaction.

Unfortunately, very few of the authors provide a detailed rationale for their choice of evaluation strategy or tools. It is suggested that there are two main reasons why using multiple tools may be a better evaluation strategy than using single tools: to enable triangulation; to enable the weaknesses of one method to be off-set by the strengths of another.

### ***-Triangulation***

Triangulation means using multiple sources of data to examine the same phenomenon (Cohen et al., 2007; Somekh and Lewin, 2005; Berg, 2007; Creswell, 2003). Somekh and Lewin (2005) define triangulation as collecting data from at least three different perspectives. It is usually used to increase the reliability and validity of the data, thus findings are strengthened and allow richer interpretations (Rothbauer, 2008) especially when the data from the multiple sources are congruent. The evaluation data will implement triangulation in two ways. First, a number of sources will be used to gain data. Secondly, different data will have different perspectives including the participants', Professor Jane Seale's, and mine. It is suggested that this should enrich the analysis of the data.

### ***- Combining the strengths of different methods***

Reviewing the e-learning training evaluation methods, it has been found that using multiple data sources is a common method to evaluate the success of the training (Westerman and Barry, 2009; Salmon *et al.*, 2008; Donnelly, 2006; Littlejohn, 2002; Panayiotidis and Masikunas, (n.d.), Taylor, 2003; Cornelius and Macdonald, 2008).



Although some projects did use one data source for the evaluation, it is suggested that this is not reliable enough. For example, using a questionnaire on its own at the end of the project may limit the trainees' feedback to the predetermined closed responses, and this could lead to missing very important opinions and information that may really matter. Similarly, if the interviews were used alone, they could be full of information that is not responding to the evaluation questions or, if a structured interview were used, the limitation of using a questionnaire alone will apply here. Another example, using observation as the only source of the evaluation data is insufficient as well. The observation will limit the data to the observer's opinions and views only, which may not be objective. For these reasons, it was decided to use multiple sources of data, which were pre- and post-questionnaire, 'individual reflection, diary, and online interaction. Interviews and focus groups were avoided in this phase because of practical reasons such as lack of time and the other problems experienced in phase one. Recruiting the interviewees was not easy. Using observation would not work because the academic staff would be likely to be unhappy if observed. The academic staff may feel under assessment that might affect their career especially the ones who are contracted and non-nationals. Moreover, some of the participants who were in a higher position than the researcher would not allow observation because this might be seen to dent their prestige. Another important reason that observation would not work is that a male researcher could not observe the female participants because of religious constraints.

## **6.5. Evaluation methods used in the training package**

In this section an account is given of each evaluation data source highlighting the aim of using it, and the timing and the content of it.

### **6.5.1. Pre- and post-questionnaires**

The questionnaire is a popular tool for data collection. Many projects, such as those reviewed earlier in this chapter, used questionnaires, such as Taylor (2003), Littlejohn, 2002, Donnelly (2006) and Westerman and Barry (2009).

Questionnaires were administered twice, at the beginning (pre-) and at the end (post-) of the training. The pre-questionnaire was distributed at the beginning of the first day of the first week (See Appendices 5.1. and 5.2.). The questionnaires return rate was 22 of 46. It was asking about the following:

- What are the e-learning tools that you use when teaching?
- What are the problems that you usually face when using e-learning tools?
- What are the e-learning pedagogies that you use with e-learning tools?
- How do you integrate e-learning tools and pedagogies?
- What do you expect from joining this training package?

These questions aimed a) to confirm the ZPD of the participants that had been revealed by the data analysis in phase 1; and b) to measure the improvement in the participants' skills by comparing it with the post questionnaire.

Hard copies of post-questionnaire were distributed to the different faculties were participants work. Later post-questionnaire was e-mailed to the participants four weeks after the completion of the training. The post-questionnaires return rate was 7 out of 46.

The questions were (See Appendix 6.1.):

- What are the e-learning tools that you use when teaching? Have they been replaced after the training?
- For the problems you identified before the training started, has the training solved any of them? How?
- What are the e-learning pedagogies that you use with e-learning tools? Have they been replaced after the training?
- How may the training package influence your methods of integrating the e-learning tools and pedagogies?
- Have you achieved what you had expected from joining the training package? Explain?
- How do you think this training package could be improved?

### **6.5.2. Individual Reflection**

Reflecting on the learning process is an essential aspect of the constructivist learning environment (Jonassen, 2000; Mayes and DeFreitas 2004). For this reason, the trainees were asked to complete an individual reflection form at the end of each day (See Appendices 5.3. and 5.4.). There were some open-ended questions in that form to stimulate reflection. The questions were:

- What was the most interesting (useful) thing you have learnt today- describe briefly?
- Why was it interesting (useful)?
- What was the least interesting or useful thing about the day/activities?
- Why was it uninteresting or not useful?
- How do you think the training today will inform your future e-learning practice?

### **6.5.3. Diary**

Using diaries in qualitative research is common. They might be used by researchers to record their own notes and reflections on the research progress or by the participants for data collection. When used by the researcher, diaries are more than merely a data collection tool, they are rather a supportive method and a rich complement to the other data collection tools and a valuable source to enable triangulating (Alebaikan, 2010). According to Smith-Sullivan (2008, p.213), “diaries can provide researchers with enlarged and detailed “snapshots” of what people have experienced”. Diaries may include both data and reflections, interpretations and analysis (Altrichter and Holly, 2005). Having this combination in the research diaries enables ongoing analysis throughout the other sources of data (Altrichter and Holly, 2005). When used as a tool of data collection, diaries are usually used along with other data collection tools including but not limited to interviews.

When open-ended questions are used to guide diaries, they are treated as open-ended interviews that are analysed qualitatively using thematic analysis (Smith-Sullivan, 2008; Engin, 2011; Altrichter and Holly, 2005). Because the diaries which

have been used in this research were mainly open-ended, they were analysed thematically in just the same way as the interviews in phase 1 (See chapter 3).

The two trainers kept their observations on the training progress day by day. They recorded their perceptions of the trainees, the difficulties that they encountered, and the successful events as they perceived them. This was done by keeping some key notes on what was going on during the training sessions and later, at the end of the day, the trainers answered the following questions:

- 1- What things went well in the day?
- 2- What didn't go so well?
- 3- How I felt during the day?
- 4- How did the participants respond?

The trainers' diaries completed the evaluative picture. It gave data that supported the data collected from the questionnaire and the individual reflection. While the questionnaires and the individual reflection collect data from the trainees, the diaries would provide data from the trainers.

When open-ended questions are used to guide diaries, they are treated as open-ended interviews that are analysed qualitatively using thematic analysis (Smith-Sullivan, 2008; Engin, 2011; Altrichter and Holly, 2005). Because the diaries which have been used in this research were mainly open-ended, they were analysed thematically just in the same way used to analyse the interviews in phase 1 (See chapter 3).

#### **6.5.4. Online interaction**

Many e-learning training packages for academic staff analyse the online interaction to collect evaluative data (Cornelius and Macdonald, 2008; Donnelly, 2006;

Taylor, 2003; Salmon *et al.*, 2008). The online interaction data were mainly about the participants' experiences of being an online student.

The academic staff were asked to participate in some online activities, which were chat, wiki and discussion forum on the third day and assignment on the fourth day.

Some of the participants communicated privately with the researcher by e-mail from the first day of week one until four weeks after the end of the training package. E-mail was mainly used to facilitate communication between the trainer and the trainees during and after the training package. It aimed to provide technical and post-training support and advice to ensure longer-term effectiveness of the training.

## **6.6. Summary**

This chapter has presented the literature on the evaluation tools used to measure the success of e-learning professional development programmes for academic staff in the higher education context. The review of this literature has shown that it is very common to employ more than one data collection tool or source. It has been argued that combining different sources could overcome the limitations and weaknesses of each source if applied alone. The chapter has also described the implementation of the evaluation process for the experimental training package. The next chapter will provide the analysis procedure and the findings revealed from these evaluation tools.

# **Chapter 7:Phase 2**

## **Results**

## 7. Phase 2 results

### 7.1. Introduction

In the previous chapter, the research methods that were used for the second phase of this study were presented. This chapter will present the findings highlighted from the evaluation data collected for phase two. As mentioned in the previous chapter, many sources were used to collect the evaluation data of the training package which were pre-questionnaire, post-questionnaire, end of the day individual reflections (participants' feedback), diary and online interactions (see Table 7.1.). The phase two data contributes to answering two of the sub-questions of the second research question:

2 c) What influence does engaging in an e-learning training package have on the practice of academic staff at KFU?

2 d) How do academic staff respond to the design characteristics of the e-learning package?

The data were collected anonymously; therefore, the code numbers given to the participants do not refer to the same person in the different data sources nor within the same data source on different days.

It should be noted that the pre-questionnaire and post-questionnaire were unstructured and invited participants to write their own answers. For the purpose of analysis these answers were categorised and assigned, where possible, a code of yes, and no with the exception of question two in the post-questionnaire.

For question two in the post-questionnaire the data were coded as follows:

- Participant mentions the specific coded item (Yes).
- Participant mentions the specific coded item (No).

Research question	Source of data
c	Pre- and post-questionnaire
d	Individual reflection (end of day feedback) Diary Online interaction Pre- and post-questionnaire
Table 7.1.: Alignment between the data collection tools and the overall research questions	

## 7.2. Analysis and Discussion of the Questions

### 7.2.1. The Influence of Engaging in an E-learning Training Package on the Practice of Academic Staff at KFU

In this section, the data collected from the pre- and post-questionnaire will be used to present the analysis and the discussion of the data that show the influence of engaging in an e-learning training package on the practice of academic staff at KFU.

#### 7.2.1.1. The Influence on the E-learning Tools that Academic Staff at KFU Use

E-learning tools	Pre-questionnaires		Post-questionnaires	
	Yes		Yes	
	n	%	n	%
PowerPoint	19	86.4	5	71.4
Word	5	22.7	4	57.1
Data show	7	31.8	3	42.9
Internet	10	45.5	5	71.4
Blackboard	6	27.3	4	57.1
E-mail	6	27.3	5	71.4
Video clips	3	13.6	3	42.9

Table 7.2.: Usage of e-learning tools before and after the training package

Table (7.2.) clearly shows the low rate of usage of e-learning tools at KFU before the implementation of the training package. However, these low percentages increased



after the training package. For example, the rate of usage of the Internet was 10 out of 22 (45.5%) before the training and became 5 out of 7 (71.4%) after it. As another example, the rate of usage of Blackboard was 6 out of 22 (27.3%) before training while its usage rate was 4 out of 7 (57.1%) after the training package. On the other hand, there was some decrease in using PowerPoint after the training package. Whereas 19 out of 22 (86.4%) of the participants were using PowerPoint before the training, only 5 out of 7 (71.4%) were still using it after the training. This decrease may have happened because the academic staff started to focus on other e-learning tools that are more important or pedagogically useful than PowerPoint. A number of the participants showed an interest in using Blackboard with their students during the face-to-face lectures and by email. For example, "Today, one group in the male section were discussing the possibilities that Blackboard could provide and shared many ideas. I noticed that they had not mentioned any basic software, rather they were talking about the necessity to move towards more advanced tools. They were rushing the pedagogy part!" (Diary day 4). It seems probable that this decrease does not mean that they stopped using PowerPoint at all but that they may pay more attention to other tools. More than half (5 out of 7; 71.4%) of the participants confirmed that their use of e-learning tools changed after the training package (For example increased in use or used different tools).

### 7.2.1.2. Influence on Perceived Problems (Barriers) of Using E-learning

Problems	Pre-questionnaires (Problems)		Post-questionnaires (Solved)			
	Yes		Yes		No	
	n	%	n	%	n	%
Lack of time	3	13.6	0	0.0	0	0.0
Lack of training	13	59.1	4	57.1	0	0.0
Lack of Infrastructure support	7	31.8	0	0.0	0	0.0
Lack of technical support	7	31.8	0	0.0	0	0.0
Awareness of students	3	13.6	0	0.0	1	14.3
Awareness of academic staff	0	0.0	1	14.3	0	0.0

Table 7.3.: Problems with using e-learning tools before and after the training package

Question 2 asked the participants about the problems that they usually face when using e-learning tools. Before training one of the most significant problems, which hindered them from using e-learning tools in their teaching, was a lack of training (n=13; 59.1%). However, this was not surprising. Lack of training is a commonly mentioned barrier to e-learning in both Saudi Arabia (Al-Khabra, 2003; Al-Far, 2004; Al-Fulih, 2002; Al-Muhaisin, 2000; Al-Sharhan, 2002; Al-Jarf, 2007; Alshehri, 2005; Alaugab, 2007; Al-Sarrani, 2010; Alnajjar, 2001; Asiri *et al.*, 2012; Al-Kahtani *et al.*, 2005; Alhazzani, 2013; Hussein, 2011) and other countries (Panda and Mishra, 2007; Birch and Burnett, 2009; Mitchell and Geva-May, 2009; Littlejohn, 2002). Alhazzani (2013) found that educators were not well-informed about information technology and the ways it can be used in different fields. This indicates that the majority of academic staff (87.1%) have not been trained to use information technology appropriately. In his descriptive study, Alghonaim (2005) explored the attitudes of administrators and instructors towards the introduction of online teaching in Buraidah College of

Technology. This study showed that there were barriers to this innovation, one of the most significant of which was that there was no training to help either administrators or instructors to gain the necessary expertise in using or administering online teaching (see Table 7.3.).

In the current study, a similar result emerged in phase one from the questionnaire and the interviews. The results of the questionnaire showed that at KFUPM lack of training was a significant barrier to using the VLE (27.5%); authoring tool and content management systems (26.1%), the online exam system (26.1%), and the learning management system (24.6%). In the interviews participants 13 and 9 also emphasised this problem. They said:

“According to research results that I have found, I can confirm that there is an urgent need to provide training for academic staff on designing online curricula, where what they provide is really under the quality that they should present, since they limit their e-learning teaching to using PowerPoint presentations only. Unfortunately, they do not use all the available facilities and opportunities available for them in the University.” (Participant 13)

“Blackboard needs to be distributed more and we need to be trained on it more as the training we took on it was insufficient to start using it and benefiting from its features.” (Participant 9)

In the post-training questionnaire, participants confirmed that training was now slightly less of an issue (n=4; 57.1%) compared to what was highlighted in the pre-questionnaire where 13 participants (59.1%) identified lack of training as a barrier to using e-learning. However, lack of student awareness was still considered an issue where three participants (13.6%) in the pre-questionnaire mentioned this problem and one participant (14.3%) thought they still had this problem after the training. A reason for that could be because the training was aimed at the academic staff only and did not pay attention to the students. It was noted that in the post-questionnaire the participants

did not mention any of the problems they mentioned in the pre-questionnaire, with the exception of students' lack of awareness. This was still seen as a problem. According to my diary of day 7, "Talking about students, the participants raised a very important point today about the fact that their students are not ready for using e-learning. They discussed that many students are not aware about how to use computers for their studies. They also added that many of the students do not have access to any computers or the Internet at home. The conclusion was drawn that the university needs to pay more attention to equipping the students with the available e-learning tools just as it does with the academic staff."

The participants 4, 7, 5 and 6 gave some examples about how the training solved some problems that they faced when using e-learning. They said that:

"Yes. How to design an e-learning course including assignments and tests." (Participant 4)

"Yes, The Blackboard package offers an effective medium to communicate with my students and to follow them up." (Participant 7)

"Yes because the training taught me how to use different e- learning tools, which the KFU provides." (Participant 5)

"Training gave me the basic skills to develop my use of e-learning." (Participant 6)

It is noticed that in the pre-questionnaire the participants mentioned that lack of time ( $n=3$ ; 13.6%) was one problem of using e-learning in their teaching (see Table 7.3.). However, lack of time is a common barrier in e-learning as it is reported in both Saudi Arabia (Alhazzani, 2013; Albalawi, 2007; Ziyadah, 2012; Almalki, 2011; Alharbi, 2002; Almuqayteeb, 2009) and other countries (Bolliger and Wasilik, 2009; Vrasidas, 2004; Birch and Burnett 2009; Badage *et al.*, 2005; Newton, 2003). Ziyadah (2012) explored the attitudes of women staff in five Saudi universities (KAU, PNU, MU, KKU and KFU) towards online learning in universities. The participants were

female faculty members, administrators and graduate students. The majority of these (52.7%) said that they were discouraged from using online instruction because they were not allowed sufficient time away from other duties to prepare online teaching resources. Almaki (2011) studied the experiences and opinions of both instructors and students at UQU, who were expected to use teaching websites as a supplement to attendance at lectures. From the faculty members' point of view, the lack of time to prepare these resources was a major barrier to making use of e-learning in their teaching.

In the current study, a similar finding resulted from the questionnaire used in phase one. The results of the questionnaire showed that academic staff did not have sufficient time to use a discussion forum (30.4 %), and videoconferencing (14.5%) in their teaching.

It is noticed that in the pre-questionnaire the participants mentioned that lack of infrastructure support and lack of technical support (n= 7; 31.8%) were among the most significant problems of using e-learning in their teaching (see Table 7.3.). However, this was not surprising. Lack of infrastructure support and lack of technical support are very common barriers in e-learning in both Saudi Arabia (Selim, 2007; Al-Jarf, 2007; Alsadoon, 2009; Al-harbi, 2002; Alshehri, 2005; Almuqayteeb, 2009; Ziyadah, 2012; Alhazzani, 2013) and other countries (Soong *et al.*, 2001; Panda and Mishra's, 2007; Osika *et al.*, 2009; Chitanana *et al.*, 2008). Most of the senior academic and administrative staff at KSU who took part in Alhazzani's (2013) research said that they did not have the technical support (74.2%) or the infrastructure support (67.8%) that they needed. These were major difficulties and barriers that meant that they were unable to integrate information technology into higher education. This was confirmed by a study carried out by Al-Jarf (2007) in fourteen universities in Saudi Arabia. She found that the technological infrastructure could not accommodate all the students and

academic staff, the bandwidth was limited, computers were down and the Internet was very often slow. Many departments did not have computer labs or were not equipped with sufficient computers, software or Internet connections.

In the current study, the questionnaire and the interviews in phase one revealed a similar situation. The results of the questionnaire showed that the second most common problem was lack of infrastructure support for using e-learning tools such as the Online exam system (24.6%), Synchronous virtual classroom system (21.7%) and Electronic whiteboard (20.3%), respectively, for example. In addition, in the interviews, some participants mentioned that infrastructure support and lack of technical support were issues:

“I hope that the university accelerates increasing the number of servers so we can all upload our courses and allow more students to access them. Let me talk about our department (Educational Technologies): we need to have two or three more computer labs that are equipped with a sufficient number of computers and their accessories as well as more servers. In other words, we need more space and equipment.” (Participant 4)

“ We face problems with using the Banner system because it is so slow and breaks down very often. So I think we need to update the network and resolve these kinds of issues (Participant 9)

They also mentioned another unsolved problem, which was the lack of academic staff's awareness (n=1; 14.3%). This was not mentioned in the pre-training questionnaire however. Most of the participants (n= 5; 71.4%) believe that the training solved the problems of using e-learning.

### 7.2.1.3. The Influence on the E-learning Pedagogy that Academic Staff at KFU Use

Pedagogy	Pre-questionnaires		Post-questionnaires	
	Yes		Yes	
	n	%	n	%
Lecturing	9	40.9	5	71.4
Discussion	4	18.2	2	28.6
Online learning	4	18.2	6	85.7
Blended learning	5	22.7	3	42.9
Collaborative learning	5	22.7	2	28.6
Active learning	0	0.0	3	42.9
Not applicable	5	22.7	0	0.0

Table 7.4.: E-learning pedagogies before and after the training package

From the table above (Table 7.4.), it is found that generally there is an increase in the rate of using e-learning pedagogies after the training, such as online learning (increased from n=4, 18.2% to n= 6; 85.7%) and blended learning (increased from n= 5; 22.7% to n= 3; 42.9%). Looking at the findings revealed from the questionnaires in phase one, it is noticed that the academic staff's use of some e-learning strategies was low compared with the results from the phase two post-questionnaire (see Table 7.5.). But caution is needed in interpreting these percentages as significantly fewer people completed the post-questionnaire compared to the pre-questionnaire.

Teaching pedagogy	Questionnaire phase one		Post-questionnaire phase two	
	n	%	n	%
Active learning	19	27.5	3	42.9
Blended learning	8	11.6	3	42.9
Online learning	6	8.7	6	85.7

Table 7.5. : Comparison between phase one questionnaire and phase two questionnaire: the use e-learning strategies by the academic staff

Most of the participants (n=5; 71.4%) asserted that their e-learning pedagogies had been changed after attending the training. For example, in the post-questionnaire, 42.9% (n=3) of the respondents mentioned active learning pedagogy while it was not mentioned in the pre-questionnaire previously (See tables 7.4. and 7.5.). “Introducing constructivism and some examples of using it in e-learning, it seems that the training programme has succeeded in encouraging the participants to move from using lecturing in a purely traditional way to more active methods where they treat their students as active contributors in their learning rather passive receivers of information. The participants started talking about different teaching pedagogies apart from lecturing!!” (Diary of day 9).

#### ***7.2.1.4. The Influence on the Integration of E-learning Tools and Pedagogies***

Integrate	Pre-questionnaires	
	Yes	
	n	%
E-mail	10	45.5
Discussion forum	6	27.3
PowerPoint	4	18.2
Blackboard	2	9.1
Do not know	2	9.1
Not applicable	4	18.2

Table 7.6.: Integrating e-learning tools and pedagogies (Pre-questionnaires)

In the pre-questionnaire responses, when participants were asked about how they integrate e-learning tools with their pedagogies, most of the participants explained that their integration is by using e-mail (n=10; 45.5%) and a discussion forum (n= 6; 27.3%). They said:



“I sent some resources for pre-lecture reading so that we could discuss them in the lecture time.”  
(Participant 13)

“Received an assignment from my students.”  
(Participant 21)

“My students communicate together by using the discussion forum for collaborative work.”  
(Participant 7)

“I posted some topics on the discussion forum and asked students to discuss them in small groups.”  
(Participant 12)

On the other hand, 9.1% (n=2) of participants did not know how to integrate e-learning tools and pedagogies (Table 7.6.). It is interesting to note that answers focused on tools not pedagogy - suggesting that participants potentially do not understand what integration means.

Integrate	Post-questionnaires	
	Yes	
	n	%
University policy	1	14.3
Personal organisation	1	14.3
Presentation of the content	1	14.3
Attitudes	1	14.3
Communication	1	14.3

Table 7.7.: Methods of integrating the e-learning tools and pedagogies?  
(Post-questionnaires)

When participants were asked about how the training package had influenced their methods of integrating the e-learning tools and pedagogies, their responses paid less attention to the e-learning tools. Some commented on university policy, personal organisation, attitudes and communication. There were no comments on the pedagogical aspects at all (Table 7.7.). For example, participant 1 said:

“The training actually went very well but to apply the training it needs a different type of student than those who are in KFU. I want to mention that it will have a significant impact but it should be adopted as the teaching methodology and pedagogy by the educational institution (if I stay in KFU).”

Participant 2, who mentioned that he/she uses the e-learning tools to present the content of the subject, said:

“It was a very fruitful training package, teaching us how to integrate the tools and pedagogies. I am using more pictorial & graphical presentation for better understanding. Later on, I am planning to do some more work on implementation design.”

One participant only reported that he/she uses e-learning tools to communicate easily with students. He/she said:

“It influences it in a positive way and helps to promote more communication between the professor and his students.” (Participant 7)

This difference between the pre- and post-questionnaire responses could be for two reasons. First, there is no guarantee that the respondents of the post-questionnaire had also participated in the pre-questionnaire. Therefore, the respondents to the two questionnaires could be absolutely different. Secondly, the long and open-ended nature of the questionnaire may have made it difficult for respondents to recall their responses in the pre-questionnaire. Although the results suggest an impact (difference in pre- and post-questionnaire answers) these difficulties suggest some caution is needed in interpreting the size or significance of the impact.

### 7.2.1.5. Achieved Expectations

Expected	Pre-questionnaires (Expectations)		Post-questionnaires (Achieved)	
	Yes		Yes	
	n	%	n	%
Develop and improve my e-learning skills and knowledge	17	77.3	7	100.0
Facilitate communication with students	2	9.1	0	0.0
Raising awareness of academic staff	1	4.55	0	0.0
General	0	0.0	2	28.6

Table 7.8.: The participants' expected outcomes (pre-questionnaire) and achieved outcomes (post-questionnaire)

Table (7.8.) shows the outcomes that the participants expected from joining the training package as well as the ones that were actually achieved after completing the training. The participants' expectations were grouped into four categories: 'Develop and improve my e-learning skills and knowledge', 'Facilitate communication with students', 'Raising awareness of academic staff', and 'General'. From the table above it can be seen that 77.3% (n=17) of the respondents of the pre-questionnaire expected that the training could improve their e-learning skills and knowledge while 100% (n=7) of the respondents of the post-questionnaire achieved that. Two respondents of the pre-questionnaire expected that the training would facilitate their communication with students and one respondent thought that the training would increase his/her e-learning awareness. However, these two expectations were not mentioned in the post-questionnaire. Again, the difference identified between the responses of the pre- and post-questionnaire could be because of the sample and the nature of the questionnaires.

Here are some examples of the respondents' quotes that were categorised under

'Develop and improve my e-learning skills and knowledge' from the pre-questionnaire:

"To know how to use effective e-learning to achieve the outcomes of learning." (Participant 15)

"Improve my technical and pedagogical skill in using e-learning." (Participant 20)

"Professional development, and helping me to use e-learning in education." (Participant 14)

"Encourage me to use e-learning" (Participant 5)

Similarly, some quotes from the post-questionnaire responses are below:

"... and learn more about the e-learning environment including theories, strategies." (Participant 5)

"First of all, I got an account for my course (Blackboard) which will be available for students starting from next year, as I need to learn more about Blackboard." (Participant 3)

"Mainly, I have so much expectation about learning how to pedagogically use Blackboard in my teaching through the second week of the training programme (English section). Now, I am doing some online learning in my own time with the web-links provided by Ahmad, in order to learn the technology of using Blackboard in my teaching (Technological week)." (Participant 2)

The majority of the participants (n= 5, 71.4%) asserted that what they expected from engaging in the training package had been achieved.

#### 7.2.1.6. Recommendations to Improve the E-learning Training Package

Improvements	Post-questionnaires	
	Yes	
	n	%
University policy	1	14.3
Content of training	3	42.9
Nature of training	1	14.3
More training	1	14.3

Table 7.9.: Improvement of training package

As shown in Table (7.9.), the participants gave some suggestions to improve the content of the training package in the future. Three participants suggested that they would have preferred to add more technical skills. Participant 2 suggested including some training on communication tools on Blackboard such as discussion forums and chat. He/she said:

“It would be great if the training included the creation and use of the functions of discussion forums and chat and how to integrate them into my teaching”.

It is likely that this participant is a non-Arabic language speaker so he/she did not attend the first week of the training where it was completely designed for technical skills. One participant offered a suggestion that went wider than the training package itself. He/she suggested some changes in the university policy with regards to transforming the university into a completely distance learning institution:

“It would be better if the university turned into a distance learning institution. This will encourage all the stuff to use this type of leaning and in this way the training package will be more important and will be improved by both trainers and trainees.”  
(Participant 1)

Another suggestion made by one participant was to design the training to meet each trainee's individual needs. In other word, he/she suggested delivering the training on a one-to-one basis. The participant said,

“Each trainee could design materials for a whole curriculum, and have them ready before the training starts to be uploaded online (Blackboard) during the training. This would be better than short and not logically related examples.” (Participant 4)

This suggestion was partially met in the first part of the training where the trainees were asked to bring some materials from their own teaching subjects to use as real examples when learning about Blackboard. Again, it must be concluded that this participant also did not attend the first part of the training.

Finally, one participant asked for the training package to be repeated many times to allow other academic staff members who could not attend the first time the opportunity to attend.

### **7.2.2. The Academic Staff Response to the Design Characteristics of the E-learning Package**

As mentioned in Chapter 5, key features of the training package were to: cover the technical and pedagogical aspects of using Blackboard, be delivered in a blended environment using face-to-face sessions and some online activities, use individual and social constructivism, and to take place over two weeks where the first week would be held in afternoon classes and the second week would be held in the morning.

In the following sections, the data collected from the participants regarding their responses to the above mentioned features will be presented. However, the participants emphasised the content of the training package more than anything else so there will be not much to present about the other features such as delivery and pedagogy.

### **7.2.2.1. Content**

As proposed in chapter 5, the training package did not only highlight the technical usage of the Blackboard; rather it highlighted the pedagogical usage also. The literature illustrates that paying attention to both aspects is a necessity to achieve the desired training goals (Donnelly, 2006; Rienties and Brouwer, 2013; Almuqayteeb, 2009; Ebert-May *et al.*, 2011; Littlejohn, 2002; Rienties and Townsend, 2012; Salmon *et al.*, 2008).

#### **7.2.2.1.1. Week one: A focus on the technical aspects of using Blackboard**

##### **- Day One**

At the beginning of the first day, pre-questionnaires were distributed to participants by the researcher in the men's section, and by the supervisor in the women's section. Day one focused on introduction to the e-learning training package, a brief review of Learning Management System in general and Blackboard in particular, getting started using Blackboard which included course availability settings, enrolling a new user, displaying all enrolled users, removing a user, making an announcement, calendar, chat/virtual classroom and sending an e-mail. There were practical activities, discussion sessions and individual reflection. The individual reflection return rate was 10 of 28 from the men's section and 6 of 18 from the women's section. The communication between the women's section and the trainer in the men's section was via video conferencing so the female participants could see and hear the male trainer and trainees while the men's section could only hear the women. On the first day, the video conferencing worked perfectly for about 15 minutes before a major technical problem occurred which meant that the women's section could only see the screen with no voice at most times. This problem left female participants disappointed and worried about missing some important activities. Unfortunately, this problem could not be resolved on the same day and negatively affected the both the return rate of the

individual reflection from the female participants and the opinions which they expressed. As was reflected in the researcher's diary: "Everything went well for the first 15 minutes until the voice suddenly disappeared from the video conferencing. The female participants were complaining that it was a waste of time. Many efforts were made to fix the problem with no success."(Diary of day 1)

Activity	Most interesting		Least interesting	
	n	%	n	%
Introduction to Blackboard	8	50.0	1	6.3
Course availability settings	7	43.8	2	12.5
Enrol a new user, display all enrolled users and remove users	9	56.3	4	25.0
An announcement	8	50.0	0	0.0
Course calendar	5	31.3	6	37.5
Chat/Virtual classroom	8	50.0	3	18.8
Sending e-mail	7	43.8	4	25.0
None (Nothing)	4	25.0	3	18.8

Table 7.10.: The most and least interesting activity in day 1

Table (7.10.) shows the most and least interesting activities conducted on day one. The data show that 'Enrol a new user, display all enrolled users and remove users' was the most frequently mentioned (9 of 16) interesting activity. In addition, one female participant e-mailed the trainer seeking help to enrol her students on Blackboard during week two (the pedagogical part). Three other activities were rated second equally with 8 votes each per activity. These activities were 'Introduction to Blackboard', 'An announcement', and 'Chat/Virtual classroom'. The activity of the 'Course calendar' was the least interesting activity as 6 of the participants indicated. Four people nominated each of 'Enrol a new user, display all enrolled users and remove users' and 'sending e-mails' as the least interesting activity.



Reason category	Result	
	n	%
New knowledge	8	50.0
Organisation	2	12.5
Easy use	1	6.3
Communication	2	12.5
Other comment	6	37.5

Table 7.11.: Categories of the reasons for selecting the best activity of day 1

Participants' justifications for their selection of best or least interesting activity varied. The participants mentioned different things that were categorised in four groups: 'new knowledge', 'organisation', 'easy use', and 'communication' (see Table 7.11.). Half (8 of 16) of the participants said that it was new knowledge to them. For example, Participants 1, 3 and 5 said that:

"I did not have any information about it."  
(Participant 1)

"Gave me an idea about Blackboard." (Participant 5)

"New knowledge for me." (Participant 3)

Two participants thought that their selected activity was helpful for organising students' enrolment or communicating with students. They said that:

"Easy to communicate with my students through e-mail and chat." (Participant 4)

"I can organise my students' enrolment."  
(Participant 10)

Only one participant indicated that it was easy to use Learning Management System. Table (7.11.) also shows that six participants were grouped in a fifth category named 'Other'. These participants focused on the technical problems that occurred rather than commenting on their favourite activity (see Table 7.13.).

Reason category	Result	
	n	%
Not used	5	31.3
I know it	1	6.3
Not my job	2	12.5
Other comment	3	18.8

Table 7.12.: Categories of the reasons for selecting the least interesting activity of day 1

Similarly, the participants' reasons for choosing the least interesting activity were categorised in three groups: 'Not used', 'I know it', and 'Not my job' (see Table 7.12.). Five participants explained that their choice of the least interesting activity was that they do not need to learn about that because they would not use it. For example, participants 5, 2 and 4 said that:

“The calendar is not a necessity, I have never ever used it and I think I will not.” (Participant 5)

“Because the information about calendar is not important to me” (Participant 2)

“Because I think I will not use chat in my teaching” (Participant 4)

Only one participant claimed that he/she had prior knowledge. Three participants also mentioned the technical problems here instead of the reasons for their selection (see Table 7.13.). Another two participants said that it was not their job. In fact the number of the participants who were not happy with 'Enrol a new user, display all enrolled users and remove users' activity was later reduced. Initially, many of the participants claimed that “Registering and deregistering students is not their responsibility instead it is a job of the Deanship of E-learning and Distance Learning and the Deanship of Admission and Registration, but once the activity was completed and the participants

saw all the features of this characteristic of Blackboard, most of those who had disagreed changed their opinions.” (Diary of day 1)

Other comments	Result	
	n	%
Technical problems	9	56.3

Table 7.13.: Sub-categories of 'Other comments' category on day 1

As mentioned earlier, the technical problem in the video conferencing was a major event during the whole day and it did affect some of the feedback from both male and female participants. Although the male section had no problems since the trainer was with them, some of the males complained because their time was wasted while the technical support assistant and the trainer were trying to restore the sound. For example, Participants 9, 11, 13, and 14 said that:

“The trainer spent a lot of time trying to fix the sound and video conferencing equipment with the technical support assistant.” (Participant 9)

“A waste of time because the sound is not clear through video conferencing.” (Participant 11)

“Too many breakdowns of video conferencing.” (Participant 13)

“The trainer could not be heard very clearly through video conferencing.” (Participant 14)

Future e-learning	Results	
	n	%
Practical reasons	6	37.5
Pedagogical reasons	7	43.8
Nothing	5	31.3

Table 7.14.: Categories of the ways that the activities will inform the participants' future use of e-learning after day 1

There were 13 mentions in the individual reflections about how the activities would change the participants' practice. These changes were categorised to be either practical or pedagogical (see Table 7.14.). Here are some of the relevant quotes:

"I will use announcements and calendar to remind students of important events such as due date of assignment, or exams." (Participant 3)

"Remind students about updates of course content like documents and internet links." (Participant 7)

"Using calendar makes students aware about the important events like exams, meeting time, and time of chat." (Participant 11)

"Makes communication with my students even easier through e-mail and chat." (Participant 8)

"Using chat/ virtual classroom with my students, especially the female section, is great. I will use Blackboard to teach larger groups of students." (Participant 4)

"Makes my course more collaborative by using chat/ virtual classroom." (Participant 5)

"Helps identify the different roles of users like student, course builders and instructor in the e-learning environment." (Participant 13)

Five participants thought that day 1 would not benefit them in their future e-learning teaching at all. It is possible that they felt this because of the technical issue, as they missed a lot. They might also have thought of encountering a similar technical problem with their own students and how that issue would negatively affect the timing or fluency of the lecture.

#### **- Day Two:**

The second day had different activities related to the course menu of Blackboard, the content area of Blackboard, practical activities, discussion sessions and individual reflection. The course menu of Blackboard included a module page, a content areas page, a blank page, a tool link, a course link, and an external link. Also, the content area

of Blackboard focused on a learning module, a syllabus, items, files, folders, audio, image, video, URLs and Mashups. On the second day, the video conferencing was fixed by the technical support team in the morning before the training started in the afternoon. Unfortunately the same technical problem occurred again so the women's section could only see the screen with no voice for most of the time. This made the female participants angry as they said that was not acceptable to come to a training session that was after working hours, to stare at the screen with no idea about what was going on. Another problem that had emerged was that the Internet network disconnected at some times. Obviously, because the training sessions were held after working hours, there was no technical assistant to fix such problems immediately. As on the first day, at the end of day 2 the individual reflection was distributed to the participants in both sections. The return rate was much better than the first day as 18 of 28 questionnaires were returned from the men's section and 14 of 18 from the women's section.

Activity	Most interesting		Least interesting	
	n	%	n	%
Module page	16	50.0	7	21.9
Content areas	24	75.0	4	12.5
Blank page	13	40.6	8	25.0
Tool link	19	59.4	5	15.6
Course link	15	46.9	7	21.9
External link	14	43.8	4	12.5
Learning module	24	75.0	4	12.5
Syllabus	14	43.8	5	15.6
Items	25	78.1	4	12.5
Files	24	75.0	1	3.1
Folder	16	50.0	5	15.6
Audio, image and video	25	78.1	1	3.1
URLs (external links)	21	65.6	3	9.4
Mashups	17	53.1	5	15.6
None (nothing)	0	0	3	9.4

Table 7.15.: The most and least interesting activity in day 2

Table (7.15.) shows the most and the least interesting activities in day 2 as the participants indicated in the questionnaire. The data revealed that the most interesting activities were 'Items' and 'Audio, image and video' as they were selected by 25 of 32 (78.1%) participants each. In the second place, three activities came equally, which were 'Content areas', 'Learning module', and 'Files' as all of them had 24 (75%) votes out of 32. The least interesting activities were 'Blank page' (n=8, 25%), 'Module page' and 'Course link' (n=7, 21.9% each). From Table (7.15.), it can be seen that the selections of interesting activities are high and the selections of least interesting activities are low in general. It is suggested that this is because of the significance of the content of these activities such as the 'Course menu of Blackboard' and the 'Content area

of Blackboard' which could be central to the design and presentation of learning materials.

Reason category	Result	
	n	%
Practical reasons	14	43.8
Pedagogical reasons	7	21.9
Professional development	3	9.4
Other comment	6	18.8
Nothing mentioned	2	6.3

Table 7.16.: Categories of the reasons for selecting the best activity of day 2

Thirty participants mentioned different reasons why they found the activities interesting. Responses were grouped in five categories: 'Practical reasons', 'Pedagogical reasons', 'Professional development', 'Other comment' and 'Nothing mentioned' as in Table (7.16.). The data in Table (7.16.) show that half (n=14) participants mentioned reasons that related to practical aspects. For example, participants 1, 2, 7, 15, 20 and 17 said that:

“Easy to upload the course materials and instruction available for student.” (Participant 1)

“Organization of course content.” (Participant 2)

“Because I could know different ways to upload my course materials.” (Participant 7)

“Benefit of adding files, pictures and videos for students.” (Participant 15)

“Using the content area is easy to offer the content of the subject for my students.” (Participant 20)

“One can upload all course materials before starting, and it is easy to edit or move them.” (Participant 17)

Participants also mentioned reasons that related to pedagogical aspects. For example, participants 11, 19, and 22 said that:

“The first step of communication with my students.”  
(Participant 11)

“Easy to deliver the content of courses for students  
in an interesting way.” (Participant 19)

“Because it helps develop communication between  
students and academic staff.” (Participant 22)

Three participants mentioned they think that training to use Blackboard is essential for their professional development so they must have it. For example, participants 6 and 22 said that:

“Training on using Blackboard is important for  
professional development in e-learning.”  
(Participant 6)

“To ensure continuous learning.” (Participant 22)

Six participants made other comments that are shown in detail in Table (7.18.).

Reason category	Result	
	n	%
Not use	2	6.3
I know it	2	6.3
Not allowed	6	18.8
None (Nothing)	5	15.6
Other comment	16	50.0

Table 7.17. : Categories of the reasons for selecting the uninteresting activity of day 2

Table (7.17.) shows the categories of the participants' reasons for selecting the least interesting activities in day 2: '[I will] not use', 'I know it', 'Not allowed', 'Nothing' and 'Other comment'. Responses in the 'Other' category were mostly about technical problems, (see table (7.18.)). Six participants complained because they could not complete the practical application on 'Mashups' because accessing websites was not allowed. It was noted that in the researcher's diary of day 2: "I was surprised when I



started explaining Mashup practically that I could not access any of 'flicker', 'SlideShare' and 'Youtube' websites from the university network because we were in a students' lab so the access to such websites was banned."

Other comments	Result	
	n	%
More information	6	18.75
Technical problems	20	62.5
Lack of trainer's assistants	5	15.6

Table 7.18.: Sub-categories of 'Other comments' category

The 'Other comment' category from questions 2 and 4 was divided into three different sub-categories: 'More information [is needed]', 'Technical problems', and 'Lack of trainer's assistants' (Table 7.18.). Evidently, the number of participants who mentioned the technical problem had increased on the second day compared with the first day from 56.3% (n= 9) to 62.5% (n=20). The technical problems made that day very difficult for many of the participants so they did not enjoy or understand the activities. "Because I was the only trainer in the whole week and with the technical problems that occurred, there was too much pressure on me" (Diary of day 2). This resulted in the trainer failing to respond to all the questions or look at everyone's application. This was particularly the case for those in the women's section, where communication was lost most of the time. Surprisingly, only 5 participants mentioned this issue in their reasons. Four participants in the 'More information' sub-category thought that the content was not as much as it should be in a whole day's training. For example participant 6 said that:

“Small amount of content for training duration”  
(Participant 16)

In this same category another two participants wanted information to be covered in day two that had been planned for day one. For example, Participants 24 and 25 said that:

“We need more advance information such as tests and quizzes, and how to correct in Blackboard.”  
(Participant 24)

“The academic staff need to know how to create assignments and exams with specified time limits, and how to prepare these so that the system will make corrections immediately and automatically.”  
(Participant 25)

It seems that these two participants did not attend the training on day 1, where the content for the whole package was explained.

Future e-learning	Result	
	n	%
Practical reasons	13	40.6
Pedagogical reasons	8	25.0
Nothing	6	18.8

Table 7.19. : Categories of the ways that the activities will inform the participants' future use of e-learning in day 2

From Table (7.19.), it could be found that more of the participants were interested in technical (practical reasons) usage of the Blackboard than were interested in the pedagogical usage. Less than half (n=13) the participants mentioned that they would use what they had learned from day 2 activities in organising their subject materials in some way. For example, Participants 1, 2, 7, 10 and 22 said that:

“Easy to provide the course materials in a timely manner for students.” (Participant 1)

“It informed me about how to organise the educational content and include diverse materials.”  
(Participant 2)

“Easy access for students to course content at any time and place.” (Participant 7)

“Makes my course more enjoyable by using different tools from the content area of Blackboard.” (Participant 10)

“Using the content area, it is easy to offer the contents of the subject for my students.” (Participant 22)

Only eight participants said that the activities of day 2 would inform their pedagogical use of e-learning. For example, Participants 1, 7 and 25 said that:

“Easy communication with students and ongoing follow-up with them.” (Participant 1)

“Easy to clarify information about content by uploading video clips in biological field.” (Participant 7)

“Ease of using featured tools of content area to display course materials such as images, learning modules and videos.” (Participant 9)

“Development of methods of teaching in a positive way.” (Participant 15)

Unfortunately, six participants expressed their negative reactions to what was covered on day 2 (Nothing). More particularly, participant 24 said that:

“Please manage the rest of training and use every single minute in things that are more valuable. Two days have passed now and we are still in the basics of Blackboard.” (Participant 24)

This issue was widely discussed in the discussion session. “I believe that this issue arose because the participants have different Blackboard backgrounds” (Diary of day 2). In other words, the participants were not equal in their Blackboard skills and as the training covered some of the basic, intermediate, and advanced skills in a logical order, this participant expected more advanced skills from the beginning of the training.

### - Day Three

On the third day, Blackboard collaboration tools were considered, including discussion board, wiki, and blogs. There were also some practical exercises, discussion sessions and individual reflection. Finally, all the video conferencing technical problems were resolved. The researcher's diary for day 3 recorded that "I am pleased today, technical problems finished and the female participants looked more interested and engaged. We saved some time so we practiced more. I quickly repeated everything we covered in day 1 and 2 for the female participants and they appreciated that." The return rate of the individual reflection of the male section was slightly higher than day 2 as 13 of 28 were returned from them while the number did not change for the female participants who returned 14 of 18 questionnaires.

Activity	Most interesting		Least interesting	
	n	%	n	%
Discussion Board	22	81.5	3	11.1
Wikis	21	77.8	3	11.1
Blogs	16	59.3	4	14.8
None (nothing)	0	0.0	12	44.4

Table 7.20.: The most and least interesting activity in day 3

The discussion board and wikis were more interesting for the participants than the blogs as they got 22, 21 and 16 votes respectively. Only a small number of participants thought that the activities of the third day were uninteresting as blogs were mentioned 4 times and both discussion board and wikis mentioned were 3 times each. See Table (7.20.) for more details.

Reason category	Result	
	n	%
Practical reasons	1	3.7
Pedagogical reasons	16	59.3
Professional development	4	14.8
Nothing	1	3.7

Table 7.21...: Categories of the reasons for selecting the best activity of day 3

By looking at Table (7.21.), it can be seen that 16 of 27 participants found the activities interesting for pedagogical reasons. For example, Participants 2, 5 and 20 said that:

“Enrich the active interaction between students and academic staff and students with each other.”(Participant 2)

“Sharing information between students and academic staff, and students with each other through using collaboration tools such as discussion forum, wiki and blogs.” (Participant 5)

“Allows me to communicate with my students quickly and easily” (Participant 20)

Four participants mentioned professional development related reasons for their selections of the best or least interesting activity. For example, Participants 10 and 21 said that:

“Development towards a more effective teaching process.” (Participant 10)

“New knowledge for me because I have never come across such tools.” (Participant 21)

Reason category	Result	
	n	%
Not use	3	11.1
Nothing	9	33.3
Other comments	7	25.9

Table 7.22.: Categories of the reasons for selecting the uninteresting activity of day 3

Table (7.22.) shows data regarding the reasons for disliking the activities of day 3. Fortunately, there are only few negative responses that are categorised in 3 categories namely '[I will] not use', 'Nothing' and 'Other comments'. Only three participants said they would not use such e-learning tools either because they were considered not suitable for the subject that they teach, or the participant preferred face-to-face communication with students, or the participants believed that it was a waste of time.

Other Comments	Result	
	n	%
Repetition	2	7.4
Improvement	2	7.4
Technical problems	3	11.1

Table 7.23.: Sub-categories of 'Other comments' category

The 'Other comments' category has both negative and positive comments that are grouped in 3 sub-categories: 'Repetition', 'Improvement' and 'Technical problems' (Table 7.23.). Two participants complained because some basics were repeated for the women's section from days 1 and 2 so there was some wasted time for them. For example, Participants 1 and 2 said that:

“Waste of time because the trainer repeated content of day one and two for women's section.”  
(Participant 1)

“Lots of the questions from the women’s section to the trainer were about day 1 and 2.” (Participant 2)

Another three participants complained because the Internet connection was not sufficiently reliable, so if they were disconnected while practicing on Blackboard, participants needed to start the steps over again, which wasted some more time. For example, Participants 17 and 25 said that:

“Time wasted because the Internet network was too slow.” (Participant 17)

“Much time wasted because of the repeated Internet disconnection. Every time the Internet was down I had to start everything over.” (Participant 25)

Two participants were pleased because the third day met their expectations and they found some improvement. For example, Participants 10 and 26 said that:

“Noticeable improvement of the way of presenting information, no more technical problems, more practice less theory, and interesting and important feature of Blackboard. These factors made the day.” (Participant 10)

“Today the sound is clear through video conferencing which made everything taught clear as well.” (Participant 26)

Future e-learning	Result	
	n	%
Practical reasons	2	7.4
Pedagogical reasons	20	74.1
Not inform	1	3.7

Table 7.24.: Categories of the ways that the activities will inform the participants' future use of e-learning following day 3

Table (7.24.) shows the data regarding how the activities of the third day would inform the participants' future use of e-learning. The results confirmed what was found

in day 2, namely that the participants were interested because of pedagogical aspects of the Blackboard (n=20) more than the practical usage (n=2). For example, Participants 21, 24 and 7 said that:

“Ask students to search and post the information on these communication tools and then give them some feedback.” (Participant 21)

“Start active interaction between students and academic staff to improve the quality of learning.” (Participant 24)

“Learn about students’ different perspectives through wikis, blogs, and discussion forums.” (Participant 7)

One participant believed that the activities of the third day would not inform his/her use of e-learning in the future because his/her college has not activated the use of Blackboard yet. See Table (7.24.) for more details.

#### **- Day Four**

The last day of the first week focused on Blackboard evaluation tools, and the grade centre. It also included some practical training, discussion sessions and individual reflection. The Blackboard evaluation tools included assignments, tests, surveys, pools and questions. "Finally, we reached the day that most of the participants had been waiting for. The evaluation tools were a desired feature that many of the participants attended the training for" (Diary of day 4). At the end of this day the individual reflection return rate was 21 from the men’s section and 10 from the women’s section.



Activity	Most interesting		Least interesting	
	n	%	n	%
Assignments	20	64.5	5	16.1
Test and Survey	22	71.0	3	9.7
Questions	23	74.2	2	6.5
Pools	22	71.0	3	9.7
Grade centre	21	67.7	8	25.8
None (nothing)	5	16.1	12	38.7

Table 7.25.: The most and least interesting activity in day 4

In Table (7.25.), it can be seen that there is not much difference between those activities rated as most interesting, or between those rated as least interesting. However, according to these results the 'Questions' activity was the best activity (n=23 of 31). Similarly, the 'Grade centre' was the activity most often chosen as the least interesting activity (n=8 of 31).

Reason category	Result	
	n	%
Pedagogical reasons	10	32.3
Practical reasons	10	32.3
Importance and usefulness	5	16.1
Professional development	1	3.2

Table 7.26.: Categories of the reasons for selecting the best activity of day 4

The reasons for choosing the most interesting activity were categorised into four groups, namely: 'Pedagogical reasons', 'Practical reasons', 'Importance', and 'Professional development' (Table 7.26.). Each of pedagogical reasons and practical reasons were mentioned 10 times in the participants' reflections. Here are some examples for both of them:

The pedagogical reasons:

“Gives e-learning more effectiveness and gives students more choice and diversity in receiving the subject topics.” (Participant 2)

“Because the test is very important in evaluating the learning process.” (Participant 12)

The practical reasons:

“Saves me effort and time.” (Participant 5)

“Saves time when I create pools for questions.” (Participant 11)

“I can create a test and survey step by step.” (Participant 18)

They believe that evaluation tools are important and useful in the educational process. They also think that the evaluation tools on Blackboard will make their job easier. For example, Participants 28, 17 and 6 said that:

“Nothing today can be mentioned as useless, all the features of Blackboard we've learned about today were really needed to evaluate my students.” (Participant 28)

“I can say that I benefited a lot from the training today.” (Participant 17)

“It is an important feature of Blackboard that must be learned about.” (Participant 6)

Reason category	Result	
	n	%
Not use	4	12.9
Lack of practice	5	16.1
Nothing	13	41.9

Table 7.27.: Categories of reasons for selecting the least interesting activity of day 4

Table (7.27.) shows the categories for the reasons for selecting the least interesting activity in day 4. The table provides three categories, namely: '[I will] not use', 'Lack of practice', and 'Nothing'. Five participants claimed that they needed more practice as there were no real marks to work on:

“The grade centre was inactive because we did not have any grade list to practice on.” (Participant 1)

“Grade centre does not include any grades to practice on.” (Participant 2)

“Because the grade centre did not contain any real data for students that we can practice on.” (Participant 19)

Four participants said that they do not use such tools to evaluate their students because they are not suitable for their students. For example, Participants 22 and 30 said that:

“Waste of time, because we learned about many types of questions that we do not really use such as matching and ordering questions.” (Participant 22)

“Because the students do not like group assignments.” (Participant 20)

Future e-learning	Result	
	n	%
Pedagogical reasons	11	35.48
Practical reasons	13	41.94

Table 7.28.: Categories of ways that the activities will inform the participants' future use of e-learning following day 4

With regards to how the activities of day 4 will inform the participants' future usage of e-learning, 13 practical reasons and 11 pedagogical reasons were mentioned. Examples of the practical issues mentioned include:

“Reduce the time spent in correcting tests and thus give the teacher more time to prepare the material to present in the course.” (Participant 3)

“I think the transfer from a traditional curriculum to an electronic curriculum will save time for students and academic staff.” (Participant 20)

“It is very helpful to create tests and assignments every two days or weekly for students.” (Participant 23)

“It will encourage me to design different types of assignments and tests.” (Participant 11)

Examples of the pedagogical issues include:

“By activation of a pool to store the questions” (Participant 1)

“Development of concepts of teamwork, enrich the information of students and improve their social skills.” (Participant 28)

“It will enable me to give the students group assignments.” (Participant 15)

#### **7.2.2.1.2. Week two: a focus on the pedagogy of e-learning**

##### **- Day Five**

This was the start of the second week of training that was mainly highlighting the pedagogical skills of e-learning. On the first and second day of the second week, Professor Seale was in the women's section and communicating with the men's section via the video conferencing link before she moved to the men's section on Monday, the third day of the second week. The first day focused on 'Using e-learning effectively at KFUPM. It had a lecture that included the following themes:

- What is e-learning?,
- Introduction about the training package,
- Why are universities using e-learning?
- Different universities perspectives of e-learning from United Kingdom, United States, Australia, Hong Kong, and Arab Gulf States.

There were also discussion sessions and individual reflection. At the end of the day a total of 37 questionnaires were returned; 22 of 28 from the men's section and 15 of 18 from the women's section.

Activity	Most interesting		Least interesting	
	n	%	n	%
Lecture	26	70.3	5	13.5
Discussion sessions	10	27.0	7	18.9
Individual reflection	0	0.0	0	0.0
Delivery	1	2.7	1	2.7
Nothing	0	0.0	17	45.9

Table 7.29. : The most and least interesting activity on day 5

Table (7.29.) shows the data regarding the most and least interesting activities undertaken in day 5. The results reveal that the majority of participants liked the lecture the most (n=22, 70.3%), for example participants 1, 11, 12 and 23 said that:

“What is effective e-learning and different universities’ perspectives on e-learning.”  
(Participant 1)

“Using e-learning around the world like UK, Australia, China.”(Participant 11)

“The reasons leading to the change to e-learning, explanation of some examples.” (Participant 12)

“Opened new horizons in the field of e-learning.”  
(Participant 23)

Only 7 participants disliked the discussion sessions. Professor Jane reflected in her diary: “I thought that generally the two groups were engaged in what I was saying. They did the group work quite well in that they discussed all the questions in their small groups. In the female section, where I was based, the participants also took the opportunity to ask me questions. The female participants were also giving me lots of smiles and nods to suggest they agreed with me, or understood what I was saying - this

was harder to tell with the male participants, over the video conferencing” (diary of day 5).

Activity	Participants who explained why this was the most interesting activity	
	n	%
Lecture	26	70.3
Discussion sessions	5	13.5
Nothing	1	2.7

Table 7.30.: Number of participants who explained their choice of most interesting activity on day 5

Table (7.30.) shows the number of participants who mentioned one or more reasons for their selection of the most interesting activity on day 5. The lecture appeared to encourage some participants to aspire to develop their use of e-learning so that they could catch up with more advanced universities in the area of e-learning. For example, participant 7 said:

"Because now I understand that we can catch up much more easily than I had thought."

Moreover, many participants indicated that reviewing other more advanced examples of e-learning was useful in helping them to learn more about the potential benefits and the expected problems of e-learning. For example, participants 11, 12, 23 and 25 said that:

“It is always good to start from what others achieve and get benefits from their experience and avoid the problems and disadvantages.” (Participant 11)

“To discover e-learning in other communities, allowing us to make objective comparisons.” (Participant 12)

“Learning about e-learning from universities around the world, it is chance to know how developed

communities make use of e-learning.” (Participant 23)

“It is a great chance to benefit from other universities.” (Participant 25)

Activity	Participants who explained why this was the least interesting activity	
	n	%
Discussion sessions	1	2.7
Nothing	16	43.2

Table 7.31. : Number of participants who explained their choice of least interesting activity on day 5

The participants did not say a lot about their reasons for rating the least interesting activities of the fifth day. As shown in table (7.31.), only one participant thought that the exercises took longer than they should as he/she said that:

“Long time in doing the exercises.” (Participant 30)

Future e-learning	Result	
	n	%
Belief	2	5.4
Motivation	5	13.5
Technical reasons	3	8.1
Pedagogical reasons	3	8.1
Professional development	4	10.8
Background	6	16.2
Nothing	2	5.4

Table 7.32. : Categories of ways that the activities will inform the participants' future use of e-learning following day 5

The participants identified a number of different ways in which the content of day 5 might inform their future e-learning practice. Their thoughts can be categorised into

six groups, namely: 'Belief', 'Motivation', 'Technical reasons ', 'Pedagogical reasons ', 'Professional development' and 'Background'. As shown in table (7.32.), six participants thought training on day 5 gave them a kind of background or an essential introduction for e-learning and that without such information they would not have been able to use e-learning in the future. For example, participants 14 and 17 said that:

“Being conscious about the great outcomes that can benefit from the e-learning.” (Participant 14)

“Today discussion was the building block of e-learning and it will help in future e-learning practice.” (Participant 17)

In confirmation of this, five participants also believed that the fifth day of training had motivated them to use e-learning with their students in the future. Further, participants 23 and 27 said that the training had motivated them to motivate their students to use e-learning as well. They said that:

“It will help me to motivate my students toward e-learning. I can find more ways to help students through e-learning.” (Participant 23)

“I think it will help me to try to manage the available tools to be able to use e-learning and to motivate students to use e-learning.” (Participant 27)

Surprisingly, only three participants reflected on the pedagogical aspects of e-learning. It seems likely that this is because the fifth day of training was the first day in the second part of the training package, and so it had a general introduction about effective e-learning utilisation in different universities across the world, which helped the participants gain lots of information about other universities' experiences in e-learning. Another three participants mentioned technical skills of e-learning. For example, participant 25 said that:



“First it will help me to know myself better and my abilities and skills and how to improve them as a university lecturer.” (Participant 27)

Four participants said the training will enable them to develop their e-learning practice (participants 1, 5, 12 and 26). The training of the fifth day also persuaded two participants to use e-learning as it is a must for the technology era. For example, participants 30 and 33 said that:

“If different universities all around the world are starting to use e-learning then we should do the same.” (Participant 30)

“Yes, I think the training will inform my future use of e-learning because it is becoming a must to teach with e-learning.” (Participant 33)

#### **- Day six**

Day 6 focused on the 'Students' perspective of e-learning'. The participants were encouraged to discuss in groups and reflect individually on the themes that were covered. Eighteen of 28 men's questionnaires and 13 of 18 women's questionnaires were returned.

Activity	Most interesting		Least interesting	
	n	%	n	%
Lecture	25	80.6	7	22.6
Discussion sessions	10	32.3	4	12.9
Nothing	0	0.0	17	54.8

Table 7.33.: The most and least interesting activity on day 6

Table (7.33.) shows that the lecture again was the most interesting for more people (n=25) than the discussion sessions (n=10). On the other hand, 7 participants disliked the lecture and only 4 disliked the discussion sessions. It is suggested that the majority of the participants found the lecture interesting because it told them a lot about

their students relating to e-learning by showing them the results from the literature. This is clearly reflected in the participants' responses to question 1. For example, participants 14 and 17 said:

“The role of the student attitude in e-learning and how to measure this attitude.” (Participant 14)

“The most interesting thing is knowing or learning how to know the students' attitudes and conceptions regarding using e-learning in their subject.” (Participant 17)

Activity	Participants who explained why this was the most interesting activity	
	n	%
Lecture	23	74.2
Discussion sessions	6	19.4

Table 7.34.: Number of participants who explained their choice of most interesting activity on day 6

The number of explanations for selecting either the lecture or the discussion sessions as the best activity of day 6 are shown in table (7.34.). There were 23 comments on the lecture and only 6 comments on the discussion sessions. Many participants thought that the lecture was really significant because students are a key component in the education process so it is necessary to research them before starting any practical steps towards actual implementation. For example, participants 1,17, 22, 24 and 29 said that:

“It is clear now the difference between students' IT skills and students' confidence about e-learning.” (Participant 1)

“Because I believe listening to the learners voices is the first step to building an effective e-learning environment.” (Participant 17)

“Because it is useful in designing tasks, activities that require students to access online. Most students have positive attitudes.” (Participant 22)

“We are transforming our teaching and technology in our faculty, concentrating more on blended learning courses. We are going to establish quizzes and assignments ... on Blackboard. So we should know our students’ backgrounds and their expectations.” (Participant 29)

Activity	Participants who explained why this was the least interesting activity	
	n	%
Lecture	4	12.9
Discussion sessions	2	6.5
Other	1	3.2
Nothing	15	48.4

Table 7.35. : Number of participants who explained their choice of least interesting activity on day 6

As table (7.35.) shows, four participants explained their choice of the lecture as least interesting, giving a variety of reasons, including the belief that e-learning is not a primary learning method and that they felt the need of more explanation of research results mentioned in the lecture. For example participants 3 and 28 said that:

“It is pessimistic; studies about the future of e-learning in Saudi Arabia are needed and the lecture did not indicate how to measure future e-learning.” (Participant 3)

"More details about each study would be more persuasive." (Participant 28)

Two participants did not like the discussion sessions; either because they took long or because he/she wanted standard criteria by which to assess his/her students'

attitudes. One participant mentioned a technical problem in the sound system.

Fortunately, 15 participants indicated that they found the whole day interesting.

Future e-learning	Result	
	n	%
Pedagogical reasons	7	21.9
Technical reasons	1	3.2
Rethinking	8	25.0
Motivation	6	18.8
Improvement	1	3.2
General	2	6.5

Table 7.36.: Categories of ways that the activities will inform the participants' future use of e-learning following day 6

The ways that the training of day 6 will inform the participants' future use of e-learning were divided into 6 groups namely: 'Pedagogy reasons', 'Technical reasons', 'Rethinking', 'Motivation', 'Improvement, and 'General'. Eight participants mentioned that day 6 activities let them pay more attention to students' attitudes toward e-learning. For example participants 13, 17 and 30 said that:

“e-learning should be part of student, academic life. Along with that, students should be taught the importance of e-learning.” (Participant 13)

“It helped me to rethink about my students' experience and how to avoid their difficulties and make the learning environment more interactive for them.” (Participant 17)

“Improving my thinking about my students' feelings and their attitudes towards e-learning compared to the traditional way of teaching. Building my students' confidence in using e-learning.” (Participant 30)

Seven participants thought that the topic of the 6<sup>th</sup> day was useful to help them to select the most appropriate strategy in e-learning, according to their students'

characteristics. Six participants said that the lecture motivated them to use e-learning and they will motivate their students in turn to use e-learning. For example participants 14 and 21 said that:

“From my point of view professor Jane is doing her best to encourage us to use effective e-learning, and modelling the best way in her handling of this subject”. (Participant 14)

“Yes, I think the training today will inform my future e-learning practice, as it motivates me to know as much as possible about how to use e-learning and to encourage my students to use it as well, to facilitate the learning process.” (Participant 21)

#### **- Day seven**

On the third day of part two of the training, Professor Seale moved to the male section and started communicating with the female section via the video conferencing link. This day's lecture was about e-learning from the lecturer's perspective. There were also discussion sessions and individual reflections. The return rate for the individual reflection was 14 of 28 from the males and 12 of 18 from the females.

Activity	Most interesting		Least interesting	
	n	%	n	%
Lecture	17	65.4	12	46.2
Discussion sessions	6	23.1	0	0.0
Nothing	6	23.1	7	26.9

Table 7.37.: The most and least interesting activity on day 7

As on the previous two days, fewer participants rated the discussion sessions as most interesting (n=6) compared to the lecture (n=17). Unfortunately, 6 participants did not find the day interesting because they thought that the lecture was too descriptive or

because the training facilitator moved to the male sections so the female staff complained because they lacked direct contact with her. See Table (7.37.).

Activity	Participants who explained why this was the most interesting activity	
	n	%
Lecture	13	57.7
Discussion sessions	6	23.1

Table 7.38.: Number of participants who explained their choice of most interesting activity on day 7

Table (7.38.) shows that 13 participants clarified their reasons for selecting 'Lecture' as the most interesting activity of the day. Mainly, participants were interested to learn more about both the advantages and disadvantages of e-learning. Moreover, they thought they needed to learn about the current e-learning situation in Saudi universities in general and KFU in particular before they could decide to or start to implement e-learning. For example, participants 1, 5 and 9 said that:

“It was interesting as the e-learning lecturer has to be aware about all factors that can make his job successful or a failure.”(Participant 1)

“Because I would like to implement e-learning effectively at KFU.” (Participant 5)

“Because I will have a good understanding of the obstacles that I face in e-learning in KFU.” (Participant 9)

Six participants indicated that their reasons for rating the discussion sessions as interesting was that it was interesting to know about each other's reactions and attitudes towards e-learning especially the opposite gender's opinion. For example, participants 3, 10, 11 and 26 said that:

“The exercise we did and read today gave me hints on how to develop theory and practice of my use of e-learning.” (Participant 3)

“Because looking at the attitudes from different aspects and points of view can help us to overcome the barriers more easily.” (Participant 10)

“Considering positive aspects and reflecting on barriers to making a success of the e-learning process and promoting it.” (Participant 11)

"I know the reactions and responses of different instructors towards e-learning depending on age, sex, and so on and it may help me in making decisions when I am a head of a department as one of the senior management." (Participant 26)

Moreover, Professor Jane noted in her diary of day 7 that “There was a useful discussion at the end about facilitators and barriers to staff using e-learning. I had to work quite hard, but after some pushing, I managed to elicit two happy or positive stories about the use of e-learning with students - both interestingly involving the use of videos with students to reinforce teaching.”

Activity	Participants who explained why this was the least interesting activity	
	n	%
Lecture	6	23.0
Discussion sessions	2	7.7
Presentation	2	7.7
Nothing	9	34.6

Table 7.39.: Number of participants who gave reasons for their choice of least interesting activity on day 7

Six participants gave reasons for not finding the lecture interesting. One reason was they wanted more practical exercises than theoretical lectures. For example, participants 1 and 6 said that:

"We need more practice than any other thing else."  
(Participant 1)

"I want the trainer to focus more on how we use e-learning to achieve effective learning and attain goals." (Participant 6)

It is clear that those participants did not attend the first week of training as they were asking for technological skills that were already covered in week one. One participant thought that time could be saved if the discussion sessions were shortened. Another participant did not enjoy the discussion, as he was frustrated because he thought the Internet server in KFU was not sufficiently reliable.

Two participants did not like the presentation of information in the lecture of this day because they wanted more time to discuss what was in the slides. Prof. Jane mentioned in her diary of day 7 "One male participant told me off at the end of the session for skipping some of the slides- they did not seem to understand why I had adapted my teaching (and that sometimes teachers need to adapt their plans to respond to student reaction) and were not placated by the fact that they had the hand-out or the slides on Blackboard - they said they wanted the opportunity to discuss what was in the slides."



Future e-learning	Result	
	n	%
General	6	23.1
Barriers	2	7.7
Professional development	4	15.4
Motivation	3	11.5
No inform	7	26.9

Table 7.40.: Categories of ways that the activities will inform the participants' future use of e-learning following day 7

Unfortunately, seven participants thought that the activities of the 7<sup>th</sup> day would not inform their future use of e-learning. One reason for this was because they were wanted a more practical focus, as mentioned on day 6. For example participants 13, 15 said that:

"I need more information about how can I employ these e-learning tools to create rich learning environments". (Participant 13)

"Notice: I come to the workshop looking forward to how to design electronic courses and how I can interact with my students" (Participant 15)

Seven participants made general statements about how the training on this day would inform their future use of e-learning. Also, four participants mentioned that the activities of day 7 would help their professional development in e-learning (Participants 5,8,11 and 26). See Table (7.40.)

### **- Day eight**

The fourth day of week 2 focused primarily on e-learning pedagogies. There were a lecture, discussion sessions and individual reflections. A total of 24 participants (14 of 28 males and 10 of 18 females) returned the individual reflection forms.

Activity	Most interesting		Least interesting	
	n	%	n	%
Lecture	23	95.8	3	12.5
Nothing	1	4.2	17	70.8

Table 7.41.: The most and least interesting activity in day 8

As shown in table (7.41.), almost all the participants (n=23) found the lecture interesting. For example participants 1 and 2 said that:

"Kinds of e-learning pedagogies, giving realistic examples." (Participant 1)

"An excellent introduction of how to use the different pedagogies of e-learning and then in using Blackboard effectively and successfully." (Participant 2)

It cannot be doubted that the reasons this was rated most interesting was that all the participants were waiting and asking for this topic from the first day of the second week and that they all were from different non-educational backgrounds. Professor Jane noted in her diary of day 8 that "The videos and the exercise examples went down well. Quite a few people really engaged in the exercise and it was clear they were thinking hard about the question. One male participant said the examples were like a revelation."

However, there were 3 participants (no. 16, 17 and 18) who thought that they needed more clarification about some points in the lecture so they nominated it as both the best and the least interesting activity of the day. Although the discussion was the main delivery method during the entire day, no one nominated it as the best or the least interesting activity. Possibly this was because all the participants emphasised the information in the lecture more than anything else or maybe because the discussion was the main delivery method during the whole day, the participants did not recognise the discussion as an activity in its own right.

Activity	Participants who explained why this was the most interesting activity	
	n	%
Lecture	21	87.5
Nothing	1	4.2

Table 7.42.: Number of participants who explained their choice of most interesting activity on day 8

Table (7.42.) shows the frequencies of the participants who mentioned some reasons for enjoying the activities of the day 8. Some participants said that they found the lecture interesting because it provided new information for them. For example participants 2, 6, 16 and 21 said:

“Because the strategies mentioned above will help in being a good instructor when it comes to using technologies.” (Participant 2)

“Linking theory with practice brings better results and makes the lecture more understandable.” (Participant 6)

“As I can imagine how I can use them in my subjects, as the theory of learning methods is different from one subject to another.” (Participant 16)

“It was useful because practical majors do not get that deeply into theories of e-learning and I did not know how to differentiate between them.” (Participant 21)

As noted above, the participants were from different colleges and did not have any educational theory background. Other participants found the lecture interesting because it provided some advice or hints on the best e-learning methods that they could use with their students.

Activity	Participants who explained why this was the least interesting activity	
	n	%
Lecture	3	12.5
Nothing	18	75.0

Table 7.43.: Number of participants who explained their choice of least interesting activity on day 8

There were three participants who complained because they wanted some practical examples to clarify the theories, as participant 15 said:

“Because there are no details or clear explanation or examples about how to employ these pedagogies in my e-learning. I still need more strategies and activities that can make the e-learning environment more effective and interactive.”

In fact, this aspect was covered in the last day of the training. Moreover, the lecture of day 8 did have some examples of real experiences in a range of different specialisations. But these participants wanted more specific examples in their own subjects.

Future e-learning	Result	
	n	%
Pedagogical reasons	12	50.0
Motivation	4	16.7
Not inform	4	16.7

Table 7.44.: Categories of ways that the activities will inform the participants' future use of e-learning following day 8

Table (7.44.) shows the data regarding the how the activities of the eighth day would inform the participants' future use of e-learning. Responses were divided into 3

groups, namely: 'Pedagogy reasons', 'Motivation', and 'not [likely to] inform'. Half of participants thought that the topic of the 8<sup>th</sup> day was useful to help them to select the most appropriate strategy and theories' in e-learning. For example, participants 2, 4, 13 and 18 said that:

“Will be very helpful to me as guidance to design and prepare a course for students with a complete awareness of what I am doing in terms of pedagogy.” (Participant 2)

“I need to increase the socio-constructive learning with my students.” (Participant 4)

“It helped me to know the right way of learning and teaching by knowing the different theories. I will try to make the link between theories of learning and technology. I will try to use some strategy like problem based learning... etc.” (Participant 13)

“It may help to choose a better way of teaching which may include individual constructive, social constructive and situative.” (Participant 18)

Four participants said that the lecture motivated them to use e-learning and they will motivate their students in turn to use e-learning (participants 1,3,7 and 9). However, four participants thought that the activities of the 8<sup>th</sup> day would not inform their future use of e-learning as participant 15 said that:

“It just assists me to know my students' kinds of learning. It will inform my future e-learning practice only if I know how to employ all this information in reality because there is still a huge gap between what we can learn and what we can do. So far, I still unable to understand how to make the e-learning environment more effective and this is what we expect to know from this workshop.” (Participant 15)

## - Day nine

The last day in the whole training was about a focus on planning and designing e-learning. As on the previous days, there were discussion sessions and individual reflection. The return of the individual reflections was 15 of 28 males and 10 of 18 females.

Activity	Most interesting		Least interesting	
	n	%	n	%
Lecture	25	100.0	1	4.0
Nothing	0	0.0	19	76.0

Table 7.45.: The most and least interesting activity in day 9

Table (7.45.) shows that all the participants liked the lecture on the last day. For example participants 4, 5, 17 and said that:

“The planning and design of e-learning, Blooms taxonomy and mapping outcomes to activities.” (Participant 4)

“Framework for design of e-learning course, showing how to apply different domains in e-learning objectives.” (Participant 5)

“How to choose the electronic tools suitable for my objective and our students.” (Participant 17)

“Differentiate between three types of learning outcomes, e-learning as supporting learning, e-learning as promoting learning activity, e-learning as integrated: underpinning the whole learning experience and learning objectives have different domains.” (Participant 23)

It is suggested that the participants were happy and enjoyed the whole day because it was the conclusion for both the first and second parts of the training and covered a topic that the participants had been particularly keen to learn about. According to Professor Seale’s diary of day 9, “A core two groups of about 12-14 male participants were really

engaged and one in particular expressed his opinion that the idea of different learning outcomes was very important to get across. One group of female participants was also very positive.”

Activity	Participants who explained why this was the most interesting activity	
	n	%
Lecture	20	80.0
Nothing	1	4.0

Table 7.46.: Number of participants who explained their choice of most interesting activity on day 9

Twenty participants mentioned their reasons for selecting the lecture as the most interesting activity on day 9 (Table 7.46.). They liked the lecture because it gave some examples of e-learning design and the strategies that they need to take into account when designing such e-learning courses. For example participants 7,18,19 and 23 said that:

“Knowledge of how to distribute different levels of educational outcomes and target activities that are performed with the students.” (Participant 7)

“This is the focus on the actual goals of teaching. And e-teaching can be a way to implement these goals.” (Participant 7)

“It is important for all academic staff to help them building their e-courses as well as building capacity for effective e-learning.” (Participant 18)

“By showing previous experience and seeing how e-learning solves some problems between students and teachers by videos online.” (Participant 19)

“It will help me to use e-learning tools effectively such as PowerPoint, video, WebCT and Blackboard.” (Participant 23)

These examples support the observations of the course leader. For example, Professor Jane mentioned in her diary of day 9: “A core group of about 6-7 male participants were really engaged and one in particular expressed his opinion that the idea of different learning outcomes was very important to get across. One female participant was also very positive. The answers to the questions I posed in the group exercises and discussions indicated that the participants had partially understood the key messages from the session, but they needed more prompting from me to be much more specific and detailed about their personal plans and to not just talk in generalities”.

Further, participant 5 said that he/she believed that the training of day 9 will really lead to the effective use of e-learning as he/she said:

"If considered, these factors will guarantee effective design and conduct of e-learning courses."

Activity	Participants who explained why this was the least interesting activity	
	n	%
Lecture	2	8
Nothing	19	76.0

Table 7.47.: Number of participants who explained their choice of least interesting activity on day 9

One participant said that he/she liked the lecture but did not like 'Bloom taxonomy' because it is very old. Another participant asked for even more practice on constructivism as he/she said that:

“Give more examples and training about constructivist approaches to learning.”



Future e-learning	Result	
	n	%
Technical reasons	4	16.0
Pedagogical reasons	13	52.0
General	3	12.0
Motivation	1	4.0
Rethinking	1	4.0
Not inform	1	4.0

Table 7.48.: Categories of ways that the activities will inform the participants' future use of e-learning following day 9

The participants identified how the activities of day nine had informed their thinking about different ways in which they might use e-learning in the future. Their thoughts can be categorised into 6 groups, namely 'Technical reasons', 'Pedagogical reasons', 'General', 'Motivation', 'Rethinking' and '[Will] not inform'. Thirteen of the participants mentioned that day 9 activities let them pay more attention to preparing, designing and identifying the learning outcomes of e- learning. For example participants 2, 8, 23 and 25 said that:

“To better design the curriculum and courses and use Bloom’s to design assessments.” (Participant 2)

“Preparing learning outcomes which can be achieved using e-learning.” (Participant 8)

“The training today will help me in designing e-learning courses and identifying the learning outcomes.” (Participant 23)

“Learning knowledge about how to plan the e-learning course in content teaching and learning situation.” (Participant 25)

The data shown in this section and the previous one (7.2.2.1.1.) confirm what was found in phase one, namely that the majority of the participants focused on Blackboard and meaningful use of e-learning in teaching for the content as being important or

relevant for them. In other words, the participants liked the training package and interacted with the content because it included content that had been identified by them as 'needed'. It could be argued therefore that seeking the trainees' training needs is a vital procedure for any training.

#### **7.2.2.1.3. Online activities**

In this part of the training package, during week one, academic staff were asked to experience e-learning as their students might, by participating in some activities on Blackboard. The activities included: chat activity, discussion forum, wiki and assignment. On day one, Blackboard accounts were provided for academic staff, so that they could experience the Blackboard components as students would.

##### **- Chat**

The timing of the chat activity was in the middle of the first week, specifically on the morning of the third day from 11:00 to 1:00; to provide assistance and support to participants with any problems or concerns about using Blackboard. Only 6 participants were present at the live chat, which was intended to facilitate a discussion about what had been learned in the first and second day of the course. Also, the participants demanded that the topics be reduced in number in order to concentrate on more important topics from their point of view such as assignments and tests. It is possible that the reason for such a small number of participants in the chat session was either because at this time participants had competing demands such as lectures and meetings, or because they had technical problems. As was noted in the researcher's diary: "many participants apologised that they were not able to participate in live chat because they faced technical problems, such as being able to download Java to activate the chat in their computers." (Diary of day 3)

### **- Wiki**

At the end of the third day of the first week, after teaching how to deal with the wiki, a wiki page had been created and academic staff were asked to collaborate in collecting 20 definitions of e-learning in a mixture of Arabic and English languages.

Sixteen participants engaged in completing this wiki. It seems probable that the main reason for so many participants engaging in the wiki is because it was a new feature for them and also they were motivated to learn about many definitions of e-learning. "A very good interaction and active engagement in the wiki activity from the participants. They liked the idea of having an online tool for collaborative activities that would be useful for their students. They started mentioning wiki in their group discussions and encouraging each other to participate in the activity, describing it as a good collaborative experience." (Diary of Day 7)

### **- Discussion Forum**

At the end of the third a thread was posted in the discussion forum which contained this question:

- What are your ideas and suggestions for implementing what you have learned from the training package with your students?

The number of participants on the discussion of this question was 22 participants, which is a large number compared with the participants who participated in other online activities.

### **- Assignment**

The participants were asked to submit an assignment about the stimulus of using e-learning (about 100-150 words). 5 participants completed this activity, which was considered a small number of participants compared with all participants of this training

package. Possibly this is due to the large workloads of academic staff and the lack of sufficient time to complete and think about it. The researcher's diary noted that: "many male participants apologised that they could not participate in online activities because of workload and responsibilities." (Diary of day 3)

#### **7.2.2.2. Delivery**

In phase one, the participants expressed a preference for learning via blended (face-to-face and online) delivery (58% in questionnaire, 9 of 17 in interviews). Using blended delivery is very popular when offering a training package on e-learning (Donnelly, 2006; Fresen *et al.*, 2006; Littlejohn, 2002). It could be a very helpful example of how one uses blended learning with students (Alsadoon, 2009; Alhbab, 2013). In addition, blended learning combines the advantages of face-to-face and online learning (Juhászová, 2011; Jungmann and May, 2009; Mironov *et al.*, 2012; Garnham and Kaleta, 2002).

Two participants (one male and one female) were not happy to receive the face-to-face lectures via videoconferencing when Professor Seale was in the opposite section. They claimed that they were lacking face-to-face interaction with the facilitator of the training:

"Of course indirect interaction with the instructor limited the chances for seeking more information."  
(Male participant 5, in day 5)

"No direct communication with the lecturer."  
(Female participant 20, in day 8)

Therefore, there was no evidence that the trainees did not like the blended mode (face-to-face and online) itself but the way that the face-to-face sessions were conducted. However, this comment, regarding lack of direct interaction with the facilitator, did not appear during the first week of training despite the fact that

videoconferencing was used from the beginning of the training. In addition, the trainees participated well in the online part of the training package and did not complain about it. There were 22 participants in the discussion forums and 16 in the wiki activities. Because of the timing of the chat session when most of the participants were in their lectures, only a small number of the trainees participated in the chat session.

Some participants responded well to using video during both the face-to-face and online training. The video clips that were specially created for this training package were used in the first week to explain the discussion forums and wikis and were uploaded on Youtube and Blackboard. The participants appreciated that and wished to have all the topics that were covered in week one available online in video format. That was clearly highlighted in the researcher's diary for day 3, "The videos worked well with the participants. They were very happy to have it available to download from Blackboard and Youtube. Many of them asked for more videos on other topics covered during the training". Professor Seale's diary emphasised a similar observation regarding the use of video. She said that, "The videos and the exercise examples went down well. Quite a few people really engaged in the exercise and it was clear they were thinking hard about the question. One male participant said the examples were like a revelation" (Diary of day 8).

#### **7.2.2.3. *Duration and Time***

As highlighted in chapter 5 (section 5.2.3.), the e-learning training literature does not justify the proper duration or best time for any training, which made it difficult to make a judgment based on the literature. Therefore, the needs analysis data from phase 1 (that is that the majority of the participants prefer to be trained for 2-4 weeks) as well as some practical reasons including the time restrictions of the study helped to inform design decisions regarding duration and time.

The training package took place over two weeks. The only complaint that was received regarding duration was that on the second day of week one, the participants informed the Deanship of Academic Development that they did not want to have a session on Wednesday of that week. At that time the weekend was on Thursday and Friday and because the sessions of the first week were held after hours, the late Wednesday session was not welcomed. The Deanship informed the researcher that they had no objection to cancelling that session. Therefore, the planned content of the cancelled day was delivered earlier, on days 3 and 4.

#### **7.2.2.4. *Pedagogy***

Both cognitive constructivism and social constructivism were used to underpin the training package in general. More specifically, training by ‘doing’ was proposed to guide the training. The participants were asked to participate in the online activities as learners doing assignments, chatting with the subject facilitator, contributing to a wiki page and discussing in a forum. The participants, as illustrated earlier in this chapter (section 7.2.2.1.3.), responded well to the online activities where they were behaving as learners.

The trainees were scaffolded by lectures, videos, practical activities, and individual and group activities. They were allowed different opportunities to reflect on their learning through the individual reflection at the end of the day and the group discussion activities throughout the day. There was some evidence that the participants had moved from the social learning (inter-mental plane) to the individual learning (intra-mental plane). After involvement in daily group discussion exercises (inter-mental plane), the individual reflections of some participants suggest that they were moving towards the intra-mental plane. For example, the use of words such as 'conscious', 'think', 'believe', 'imagine' and phrases such as 'know myself' are indicative of trainees personalising discussions to their own circumstances:

“Being conscious about the great outcomes that can benefit from the e-learning.” (Participant 14, on day 5)

“Today discussion was the building block of e-learning and it will help in future e-learning practice.” (Participant 17, on day 5)

“I think it will help me to try to manage the available tools to be able to use e-learning and to motivate students to use e-learning.” (Participant 27, on day 5)

“First it will help me to know myself better and my abilities and skills and how to improve them as a university lecturer.” (Participant 27, on day 5)

“Yes, I think the training will inform my future use of e-learning because it is becoming a must to teach with e-learning.” (Participant 33, on day 5)

“Because I believe listening to the learners voices is the first step to building an effective e-learning environment.” (Participant 17, on day 6)

“It helped me to rethink about my students’ experience and how to avoid their difficulties and make the learning environment more interactive for them.” (Participant 17, on day 6)

“Improving my thinking about my students’ feelings and their attitudes towards e-learning compared to the traditional way of teaching. Building my students’ confidence in using e-learning.” (Participant 30, on day 6)

“Because I will have a good understanding of the obstacles that I face in e-learning in KFU.” (Participant 9, on day 7)

“The exercise we did and read today gave me hints on how to develop theory and practice of my use of e-learning.” (Participant 3, on day 7)

“Because looking at the attitudes from different aspects and points of view can help us to overcome the barriers more easily.” (Participant 10, on day 7)

“As I can imagine how I can use them in my subjects, as the theory of learning methods is different from one subject to another.” (Participant 16, on day 8)

No specific comments, positive or negative were received from the participants about this aspect of the training. However, they gave some feedback on some key elements of the pedagogy such as lectures, group discussion, online activities, and some of the practical exercises (see table 5.5.). This suggests therefore that overall, that the participants' response to the training pedagogy was positive.

### **7.3. Summary**

This chapter has provided a detailed account of the data analysis and evaluation findings of phase two (answering sub-questions c and d of the second research question) that were collected from pre- and post-questionnaires, (end of day) individual reflection, the researcher's diary, and online interaction. The findings have illustrated that engaging in an e-learning training package has impacted the practice of academic staff at KFU in some ways. The trainees showed good responses to the different features of the training design. They liked the mixture of technical and pedagogical aspects of using e-learning. They participated in the online activities and interacted well. Having the training delivered in a blended mode gave the participants a live example of the benefits and the methods that they might use with their own students. Finally, they responded well and did not complain about the use of either cognitive constructivism or social constructivism. The next chapter will present a summary of the whole research and discuss its implications.



# **Chapter 8:**

# **Summary and**

# **conclusion**

## **8.1. Summary and conclusions**

This chapter will discuss the extent to which each of the research questions has been answered; draw on the answers to these questions to propose a model for the design and evaluation of e-learning training in higher education and discuss both how this thesis makes an original contribution to knowledge and the limitations of the study.

## **8.2. Summary of the study and main findings**

This study investigated the current e-learning use and future needs of academic staff in the faculty of education at KFU. It then attempted to meet these needs by developing and evaluating an e-learning training package. This study aimed to achieve the following objectives:

- To identify the technological and pedagogical training needs of academic staff in the faculty of education in KFU, SA.
- To design and implement a proposed training package based on the training needs of academic staff using modern technology.
- To evaluate the influence of the proposed package on the e-learning practices of academic staff.

In order to achieve these objectives, the main research question of this thesis is:

-What are the e-learning training needs of the academic staff of the faculty of education in KFU and how can these needs be met by a training package?

Related to this main question are the following sub-questions:

- What are the e-learning training needs of academic staff in the faculty of education at KFU?
  - a. What e-learning facilities are available for academic staff in the faculty of education at the university? (Chapter 4)
  - b. What current e-learning skills do academic staff already have and how are they using e-learning with their students? (Chapter 4)

- c. What factors either help or hinder the use of e-learning by academic staff? (Chapter 4)
  - d. What are the e-learning training needs and preferences of academic staff? (Chapter 4)
- How can the e-learning training needs of the academic staff of the faculty of education in KFU be effectively addressed?
  - a. How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package? (Chapter 5)
  - b. How might e-learning theories and models inform the key design features and characteristics of an e-learning training package? (Chapter 5)
  - c. What influence does engaging in an e-learning training package have on the practice of academic staff at KFU? (Chapter 7)
  - d. How do academic staff respond to the design characteristics of the e-learning package? (Chapter 7)

Now the extent to which each of these research questions has been answered will be discussed.

### **8.2.1. Question: What are the e-learning training needs of academic staff in the faculty of education at KFU?**

In Chapter 4, data collected from phase one questionnaire and interviews were presented, analysed and discussed in order to identify the current e-learning use and future needs of academic staff in the Faculty of Education at KFU. The main findings will be summarised here.

#### ***8.2.1.1. What e-learning facilities are available for academic staff in the faculty of education at the university?***

The analysis of 69 questionnaires and 17 interviews was presented and discussed in Chapter 4. The findings showed that there was some conflict between the study's findings and the literature. The findings of the current study showed that the majority of

the participants acknowledged that the university makes e-learning facilities available for them (see section 4.2.1). In contrast, the international literature in general and in Saudi Arabia in particular indicated that academic staff lack infrastructure support, administrative support, technical support and training.

***8.2.1.2. What current e-learning skills do academic staff already have and how are they using e-learning with their students?***

In section (4.2.2.), the analysis of the questionnaire and the interviews indicated that the most common skill among the participants was e-mail, learning management systems like Blackboard and WebCT, discussion forums and electronic whiteboard. It has also been shown that the three tools most often employed were discussion forums, videoconferencing, and electronic whiteboard. Unfortunately, having a skill does not necessarily mean using it in teaching. Despite the fact that most of the academic staff appeared to be familiar with learning management systems, only a few of them actually use them for teaching purposes. The majority of the participants said that they use a “Lecturing” strategy while an “Online learning” strategy was the least used.

***8.2.1.3. What factors either help or hinder the use of e-learning by academic staff?***

The findings in section (4.2.3.1.) indicated that KFU offered its staff adequate access to infrastructure support, technical support, administrative support, and training workshops on e-learning. With the exception of lack of training, only a few of the questionnaire respondents and the interviewees indicated that they encountered barriers such lack of time, lack of infrastructure support, lack of technical support and lack of administrative support.

The participants reported several practical and pedagogical motivators that encouraged them to use e-learning. The practical motivators included “Using e-learning saves time”, “E-learning brings greater flexibility”, and “E-learning can make

teaching/learning easier”. At the same time, the pedagogical motivators were “E-learning increases opportunities for collaborative work among learners”, “E-learning attracts and motivates students to learn” and “E-learning improves my communication with students” (see section 4.2.3.2.).

#### ***8.2.1.4. What are the e-learning training needs and preferences of academic staff?***

The participants’ needs and preferences for e-learning training focused on both technical (how to use Blackboard) and pedagogical (meaningful use of e-learning in teaching) skills. They preferred to learn via blended learning (face-to-face and online) delivery; to have a training package that lasted between one and four weeks and was held at the beginning of the term (see section 4.2.4.).

### **8.2.2. Question: How can the e-learning training needs of the academic staff of the faculty of education in KFU be effectively addressed?**

#### ***8.2.2.1. How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package?***

In chapter 5, it was explained that the design of the training package was informed by the training needs and preferences of academic staff and supported by a review of e-learning training literature. The final product had two parts: technical and pedagogical. The technical part lasted for four days and focused on the most common functions of Blackboard. The sessions took place in the afternoons. The pedagogical part lasted for five days and took place in the mornings. Pedagogical content included common pedagogical approaches to using e-learning with students; an introduction to constructive alignment as a tool for designing e-learning activities; examples of e-learning usages in different contexts and factors that influence students and lecturers

motivations for using e-learning. The package was delivered in a blended mode. There were face-to-face sessions and online activities for the trainees to participate in; giving them an opportunity to experience e-learning from a student's perspective.

#### ***8.2.2.2. How might e-learning theories and models inform the key design features and characteristics of an e-learning training package?***

A review of general e-learning literature revealed that both cognitive and social constructivism were commonly used in e-learning for students (see Section 2.4.). It was anticipated that these theories might also be commonly applied to the design of e-learning training packages for academics. However, the review of e-learning training literature (Section 5.2.4.) revealed that very few studies explicitly mentioned whether or not their training was underpinned by any particular learning theory. For those that did refer to learning theory, this tended to be done briefly with a lack of detailed justification. For the handful of studies that did report in detail on the learning theories underpinning the design of e-learning training, constructivism was more commonly (albeit marginally) referred to than other learning theories. The decision was therefore made to apply both cognitive and social constructivism to the design of the proposed e-learning training package.

The lack of pedagogical detail and discussion in the e-learning training literature suggested the need to consult more general fields of literature for insights into what learning theories might inform the design of the experimental e-learning training package.

#### ***8.2.2.3. What influence does engaging in an e-learning training package have on the practice of academic staff at KFU?***

The literature on the evaluation methods of academic staff training packages, reviewed in Chapter 6, argued that the evaluation could be conducted using multiple

evaluation tools included questionnaires, interviews, observation, documents, reflective journals, feedback, and online interaction. The evaluation data were collected from the participants using multiple sources, which were pre- and post-questionnaire, individual reflection, diary, and online interaction.

The analysis of these data (the pre- and post-questionnaire), reported in Chapter 7 (section 7.2.1.), showed that the e-learning training package did have some influence on the practice of the academic staff at KFU:

*- The influence on the e-learning tools that academic staff at KFU use:*

There was an increase in the level of using most of the e-learning tools after the training package (see section 7.2.1.1.).

*- The influence on perceived problems (barriers) of using e-learning:*

The most significant barrier that the trainees encountered was lack of training as they highlighted in the pre-questionnaire. More than half of the respondents to the post-questionnaire thought that problem was solved after the training. Only one participant confirmed that the problem of the lack of students' awareness of using e-learning had not been solved after the training which was not surprising since the training package was designed especially for the academic staff only (see section 7.2.1.2.).

*- The influence on the e-learning pedagogy that academic staff use at KFU:*

Section (7.2.1.3.) highlighted that there was an increase in using e-learning pedagogies after the training package including online learning and blended learning.

*- The influence on the integration of e-learning tools and pedagogies:*

Identifying the influence on the integration of e-learning tools and pedagogy by comparing the pre- and the post-questionnaires was not obvious. The respondents to the

post-questionnaire did not mention the pedagogical aspects at all. All the attention was paid to some contextual factors including the university policy (see section 7.2.1.4.).

- *Achieved Expectations:*

All the respondents to the post-questionnaire said that the training package did develop and improve their e-learning skills and knowledge as expected (see section 7.2.1.5.).

#### ***8.2.2.4. How do academic staff respond to the design characteristics of the e-learning package?***

The data presented in chapter 7 (section 7.2.2.) illustrated how the academic staff responded to the design characteristics of the training package. Most of the comments and feedback were about the content of the training. The trainees liked having the combination of technical and pedagogical aspects of e-learning in one package. There was little or no feedback on the duration and time, pedagogy, and delivery of the training. But importantly, there was no evidence that the trainees did not like or responded negatively to these aspects.

### **8.3. A model for design and evaluation of e-learning training in higher education**

In this thesis training needs data and research literature have been used to design and evaluate an e-learning training for academic staff at KFU. Some of the aspects of the design are specific to KFU and may not translate well to e-learning training in other countries such as the contextual factors and the training needs. However, five key generic design and evaluation criteria have been identified that are proposed as being relevant and applicable to any other kind of e-learning training package: ownership; intersubjectivity; contextualisation; transformational potential and evidence-based.



## **Ownership:**

Ownership refers to the extent in which the lecturers and managers are given the opportunity to influence the design of the training. There is a strong consensus that shaping the training to meet the training needs of the trainees is essential. This consensus applies also in the field of e-learning (Aldakel, 2003; Alhbabi, 2013; Alhawiti, 2011; Yardy and Date-Huxtable, 2011; Taylor, 2003; Birch and Burnett, 2009; Irani and Telg, 2002; Oliver, 2004; McLean, 2005; Kou and Wan, 2009; Westerman and Barry, 2009) (see section 5.2.1.). Meeting the training needs of the trainees gives them a sense of ownership and control over their training. In this study, the training needs of the academic staff were collected using a questionnaire and interviews and considered in the design of the actual training.

Strategically, meeting the basic requirements of key institutional stakeholders is important in order to obtain the necessary permissions to implement an e-learning training programme. Therefore, it is essential that the aims of the training programme align with the training policies of the higher education institutions within which the training is being carried out. These policies vary from one institution to another. In addition, when it comes to identifying the optimum timing and duration of the training programme, trainers will need to balance the needs of the trainees against the preferences of senior managers. This will be a particular challenge, given that many researchers, such as Newton (2003); Almuqayteeb (2009); Bolliger and Wasilik (2009); Badage *et al.* (2005); Birch and Burnett (2009); Albalawi (2007); Ziyadah (2012); Alhazzani (2013), have discussed how lack of time negatively impacts any training course (see sections 2.2.2. and 5.2.3.).

In this study, permission to implement the training was conditional on the training being made available to all staff at KFU and not just staff in the Faculty of Education. A second condition was that part two of the training package be delivered by the

researcher's supervisor, someone with experience in e-learning. Moreover, in trying to get permission from the Deanship of Academic Development to run the training package, it was found that any training had to be no more than two weeks and have no delay in the implementation of the training after the fifth week of the term. Based on that requirement, the training package was implemented in two weeks in February 2012 (starting in week four of the second semester). During the first week, the training ran for four hours every working day in the afternoon (4 p.m - 8 p.m). The technical content of the training package was originally intended to be delivered over five days but in reality it was conducted in four days as requested by the Deanship of Academic Development. However, none of the content was reduced. In the second week, there were four hours every working day in the morning (8 a.m. - 12 noon).

The extent to which training participants felt they had ownership and control over the design of the training package was not specifically evaluated in this thesis; however in future iterations this could be evaluated using specifically targeted questions within the pre- and post-questionnaires.

### **Intersubjectivity:**

Intersubjectivity was a key component that was integrated into the design of the e-learning package, and it should therefore be a key focus in any evaluation framework. In an e-learning training programme it is important that lecturers (trainees) have the opportunity to share experiences and learn from one another. Many e-learning training programmes have implicitly applied this design characteristic even if they did not explicitly put it in a framework. Examples include Fresen et al. (2006), Donnelly (2006), Littlejohn (2002) and Salmon et al. (2008) (see section 5.2.4.). Intersubjectivity in this sense has been applied in a number of ways including allowing discussion, group work, sharing experiences, online communication and activities, and using a social

learning theory. In e-learning in the higher education domain, social constructivism is one of the most commonly used theories (McConnell, 2005; Guldberg and Mackness, 2009; Gannon-Leary and Fontainha, 2007). Social constructivism means constructing knowledge through social interaction and active processes (Sung-Ong, 2007; Vygotsky, 1978; Jonassen, 2000). In social constructivism, learners interact with the environment around them including teachers, peers, friends, and society in general (Underhill, 2006). This theory emphasises the role of cultural and social contexts in learning (Woo and Reeves, 2007) as it asserts that learning is a socio-cultural construction and learners negotiate meaning through language (Vygotsky, 1978; Can, 2009). Vygotsky has developed a number of concepts including the inter-mental and intra-mental planes, ZPD, and scaffolding (see section 2.4.2.).

In this e-learning training package, intersubjectivity was achieved by employing general social constructivism concepts as well the specific Vygotskyian concepts of the inter-mental and intra-mental planes, ZPD and scaffolding. Generally there were plenty of opportunities for the trainees to discuss their understandings and thoughts with each other in groups every day during the whole programme. There were some collaborative assignments to be done online where the trainees contributed to a wiki page and participated in an online discussion forum. The ZPD was identified from the needs analysis in phase one. The scaffolding was provided to the trainees through the training itself. The concept of the two planes was reflected in the design of the training in that every day for both weeks, trainees were offered a range of opportunities (such as discussion exercises) to learning socially in groups. This was then followed by opportunity for individual reflection where trainees were encouraged to assimilate and internalise what they had learnt from the social interactions and reflect on how they would use this in their own individual teaching practice. This feature of the training can be evaluated using the trainers' diaries where they reflect on the group discussions and

the group exercises. The end of day individual reflections by participants may also reveal the extent to which the training encouraged intersubjectivity.

### **Contextualisation:**

The training was designed to be sensitive to local parameters such as what technologies are available in the place of training and the provision of language sensitive resources. Contextual factors may support or disable the development and implementation of any digital initiative in higher education sector (Khan and Nawaz, 2013; Rakesh, 2014). According to Sharpe *et al.* (2006), the first step in implementing any institutional training is to deliberately analyse the current institutional context. The authors described the implementation of an e-learning strategy at Oxford Brookes University, UK regarding the levers used to promote effectiveness and sustainability. The results of their study showed that contextualisation was the most influential lever for change where the strategy allowed each school to plan their own development as best fitted within their own context. Westerman and Barry (2009) reviewed a staff development programme that took place at the Canterbury Christ Church University, entitled “DEBUT” (Digital Experience Building in University Teaching), which aimed to “evaluate whether a situated, contextualised approach to staff development, grounded in the concepts of literacy, could be successful in raising the overall confidence of a group of academic staff in using and exploiting digital tools” (p.122). It was proved that allowing the trainees the opportunity to select the tools to be trained for based on their own situation made their experience successful because of the possibility of immediate application of what they had learnt (Westerman and Barry, 2009).

In this study, the e-learning training package focused on Blackboard tools which were available for the academic staff and students at the university. Because of the lack of explanatory videos on the included features (wiki and discussion forums) of Blackboard in Arabic language, some videos were created in Arabic and made available

for the trainees on YouTube. In addition, because the attending trainees were either Arabic or English speakers, all the different resources used in the training were made available in English and Arabic. The extent to which training participants responded to the contextualisation within the training package was not specifically evaluated in this thesis; however in future iterations this could be evaluated using specifically targeted questions within the pre-and post questionnaires and the end of day reflections. Trainers might also be primed to observe responses to specific contextualisation and record these in their diaries.

### **Transformational potential:**

In order for training to be effective, it must lead to changes in the trainees' practice. In the e-learning training package described in this thesis this was achieved in two ways. Firstly, both technical and pedagogical aspects were covered, so that lecturers were able to link theory to practice. Secondly, lecturers were offered examples of different ways in which e-learning can be used with students in order to expand their repertoire of possible practices.

The literature on effective e-learning training for academic staff in the higher education sector argues that training that only focuses on how to use technology tools is not effective in enabling lecturers to employ these tools in their teaching (Almuqayteeb, 2009; Alnujaidi, 2008; Donnelly and O'Brien, 2003; Govindasamy, 2002; Salmon, 2000; Littlejohn, 2002). Much research has argued that pedagogical aspects of e-learning must also be emphasised (Donnelly, 2006; Wilson and Stacey, 2003; Rienties and Brouwer, 2013; Almuqayteeb, 2009; Ebert-May *et al.*, 2011; Littlejohn, 2002; Kou and Wan, 2009; Alvarez *et al.*, 2009; Westerman and Barry, 2009; Committee of Inquiry into the Changing Learner Experience, 2009; Rienties and Townsend, 2012; Salmon *et al.*, 2008). According to Govindasamy (2002: p. 287), "One of the most crucial prerequisites for successful implementation of e-learning is the need for careful

consideration of the underlying pedagogy”. Lecturers (trainees) need to learn to use technology to aid their teaching and their students’ learning process rather than use it as a new way to deliver the content (Donnelly and O'Brien, 2003). A study by Mitchell and Geva-May (2009) in British Columbia and Canada found that 70% of participants, who had training in technological skills, requested more attention be paid to instructional design so they could become more effective in online learning. Wilson and Stacey (2003) suggest that "The online teacher needs to understand not only the technical platform being used to support online teaching, but also requires the design skills necessary to avoid the 'dumping' of content used in classroom based contexts into the online environment" (Wilson and Stacey, 2003, p.548). Alnujaidi (2008) concluded that the faculty members’ use of instructional strategies in higher education institutions in Saudi Arabia will not improve unless more attention is paid to professional development related to both technical and pedagogical aspects of technology integration. Drawing upon these pieces of evidence, it could be argued that effective e-learning training that improves the trainees’ practice will consider the pedagogical as well as the technical aspects of technology.

The transformative potential of the training also presents the lecturers with new possibilities for teaching with technology. For instance, encouraging the trainees to experience collaborative online activities using wiki and discussion forums presented an example of how these tools may be used with their students. Showing videos on some meaningful use of e-learning encouraged the academic staff to think and reflect on how they might implement these examples into their own context. The group discussion sessions and the individual reflections at the end of each day stimulated their thoughts on the possible ways to apply what had been learnt to their practice (See Chapter 7|)

The transformation potential of e-learning training can be assessed by comparing the data from pre- and post-questionnaires on the technologies and the pedagogies that the participants use and how they use them before and after the training. Moreover, as part of the end of day individual reflections, the participants can be asked to reflect on how they might apply what they have learnt each day to their own teaching.

### **Evidence-based:**

Evidence-based refers to the extent to which the design of the training was underpinned and influenced by evidence. Evidence must be sought from different sources including the general e-learning literature, the e-learning training literature and an analysis of the training needs of participants. In the context of this thesis, e-learning general literature and e-learning training literature showed that:

- A number of studies in e-learning training strongly recommend that the actual training needs of the academic staff must be collected to shape the design of the training programme (Aldakel, 2003; Alhbabi, 2013; Alhawiti, 2011; Yardy and Date-Huxtable, 2011; Taylor, 2003; Birch and Burnett, 2009; Irani and Telg, 2002; Oliver, 2004; McLean, 2005; Kou and Wan, 2009; Westerman and Barry, 2009).
- It is necessary to include both technical and pedagogical elements in training (Donnelly, 2006; Wilson and Stacey, 2003; Rienties and Brouwer, 2013; Almuqayteeb, 2009; Ebert-May *et al.*, 2011; Littlejohn, 2002; Kou and Wan, 2009; Alvarez *et al.*, 2009; Westerman and Barry, 2009; Committee of Inquiry into the Changing Learner Experience, 2009; Rienties and Townsend, 2012; Salmon *et al.*, 2008).
- Using blended learning to deliver training on e-learning is highly recommended because it has the strengths of both online learning and face-to-face learning but it does not have their weaknesses (Collis, 2003; Morgan, 2002; Smelser, 2002; Juhászová, 2011; Jungmann and May, 2009; Mironov *et al.*, 2012; Garnham and Kaleta, 2002; Allan, 2007; Vaughan, 2007; Dziuban *et al.*, 2005; Aycok, 2002; Donnelly, 2006; Fresen *et*

*al.*, 2006; Littlejohn, 2002). It is very important to select a training environment that facilitates the training objectives. In any training programme it could be suggested that academic staff should use the same e-learning environment as their prospective students (Donnelly, 2006; Alhbabi, 2013; Alsadoon, 2009).

The needs analysis from phase 1 showed that:

- The academic staff wanted to be trained in both technical and pedagogical aspects of Blackboard.
- They preferred to learn via blended (face-to-face and online) delivery and in teacher-led lectures.

These needs were taken into account when the training was designed (see sections 5.3. and 5.4.).

The extent to which an e-learning training package is evidence-based can be evaluated in two ways. Firstly, with regards to evaluating the extent to which the training design was informed by research; the design could be reviewed by peers and/or by the trainer through a structured self-evaluation questionnaire, or reflective diary. Secondly, with regards to evaluating the extent to which the training design was successfully informed by a training needs analysis, data could be collected from participants using pre- and post-questionnaires.

Table 8.1 illustrates how these five design and evaluation criteria have been implemented in the training package described.



<b>E-learning training design and evaluation criteria</b>	<b>Design Examples from the study</b>	<b>Evaluation Methods</b>
<b>OWNERSHIP:</b>  Lecturers and managers are given the opportunity to influence the design of the training	<ul style="list-style-type: none"> <li>- Analyses of the e-learning training needs and preferences of the academic staff (see section 4.2.4.1.).</li> </ul> <p>The Vice President and the Deanship of Academic Development had stipulated that any training had to be no more than two weeks and have no delay in the implementation of the training after the fifth week of the term (see section 5.3.3.).</p> <ul style="list-style-type: none"> <li>- Permission was conditional, however, on the training being made available to all staff at KFU and not just staff in the faculty of Education. A second condition was that part two of the training package be delivered by the researcher's supervisor, someone with experience in e-learning (see section 6.2.)</li> </ul>	-Pre-questionnaire -Post-questionnaire
<b>INTERSUBJECTIVE (SOCIAL):</b>  Learners have the opportunity to share experiences and learn from one another	<p>The trainees were allowed many opportunities to collaborate and discuss and to reflect on what had been taught each day (Vygotsky's two planes) and further opportunities were provided through the online activities (wiki, chat, discussion forums) (See section 5.4.)</p>	Individual reflection and Diary
<b>CONTEXTUALISATION:</b>  The training is sensitive to local parameters (e.g. what technologies are available in the place of training; language sensitive resources)	<ul style="list-style-type: none"> <li>- The training programme focused on Blackboard tools that were available at the university.</li> <li>- The video clips on how to create and use different tools (wiki and discussion forums) on the Blackboard were created in Arabic language.</li> <li>- Different resources on Blackboard were translated from English to Arabic for the trainees. (See section 5.4.2.)</li> </ul>	pre- and post-questionnaires, diaries and the individual reflections
<b>TRANSFORMATIONAL:</b>  The training presents the lecturers with new possibilities for teaching with technology	<p>The data for phase 1 showed that the academic staff in KFU had good infrastructure to use e-learning but their usage was low. The analysis of phase 2 showed evidence that the training had introduced some examples to the trainees of how they might exploit the infrastructure they have available. Their reflections suggested that they had started seeing new possibilities that they were not aware about before. (See chapter 7)</p>	Pre- and post-questionnaires, and the individual reflection
<b>EVIDENCED BASED</b>	<p>Every design feature of the training, including content, delivery, pedagogy, time and duration, was informed by the needs analysis, training literature, and learning theories. (See chapter 5 and 6)</p>	pre- and post-questionnaires, diaries and the individual reflections
Table 8.1.: A model for the design and evaluation of e-learning training		

## 8.4. Contribution to knowledge

It is suggested that this thesis contributes to knowledge in three ways. Firstly, this thesis contributes to the general literature on the design and evaluation of e-learning training for university staff. It offers a rare example of 1) how e-learning training can be systematically designed by taking into account user needs, research evidence and

learning theories 2) How the evaluation rationale for e-learning training can be made transparent and explicitly articulated.

The second way in which this thesis contributes to knowledge is in relation to what is specifically known about e-learning training in Saudi Arabia. Many studies show that there is a great need to train academic staff in Saudi Arabian Universities on their role as facilitators in e-learning settings (Al-Khabra, 2003; Al-Kahtani *et al.*, 2006; Alshehri, 2005; Al-Jarf, 2007; Alaugab, 2007; Alsadoon, 2009; Almuqayteeb, 2009; Al-Sarrani, 2010; Hussein, 2011; Asiri *et al.*, 2012; Ziyadah, 2012; Alhazzani, 2013; Alhbab, 2013; Al-Shawi and Al-Wabil, 2012). Despite this, many Saudi studies also reveal that e-learning training programmes available for the academic staff do not meet their instructional needs (Aldakel, 2003; Alhbab, 2013; Alhawiti, 2011; Al-Sarrani, 2010). The study reported in this thesis presents a model for the design of future e-learning training packages that is evidence based in that it is informed by both user needs and research literature.

The third way this thesis contributes to knowledge is in the creation of a model for the design and evaluation of e-learning training. Five criteria, namely Ownership; Intersubjectivity; Contextualisation; Transformational Potential and Evidence-based, were carefully developed and explained. It is argued that this design and evaluation model can be used in any e-learning context because of its flexibility, as it can be adapted according to training needs and the contextual factors.

## **8.5. Study limitations**

Recruiting the academic staff to participate in the research was not easy for a number of reasons. First, the academic staff are always busy. Secondly, the non-Saudi staff were afraid to participate because they thought their responses would be used to evaluate their teaching and accordingly would impact on their contracts. This was

despite the fact that they were told that all data will be treated anonymously. More specifically, conducting interviews was not welcomed by either male or female participants. Interviewing. The female participants face-to-face was impossible for religious reasons so a female interviewer was used to conduct the interviews with them. However, it is suggested that e-mail interviews could be substituted in any future research.

In hindsight, the open-ended evaluation questionnaires that were used in phase two were of limited use for both the researcher and the participants. The participants did not provide rich data in these questionnaires and the responses frequently did not reflect the question. Moreover, they were very difficult to analyse and were not very helpful as an evaluation tool. For example, there was not much feedback on the design of the training package. It would have been more useful to include direct questions about the different features of the training package design including pedagogy. Therefore, it is suggested that questionnaires with closed questions should be used as much as possible, leaving some room for responses in participants' own words if required.

The return rate for the post-questionnaire in phase 2 was extremely low despite the fact that the forms were distributed to the faculties where the trainees work and many reminders with attached forms were e-mailed to them. It is recommended that in any future replication of this study, the trainees should be invited to a meeting using the video conference facility in order to contact the women and invite each trainee to share their experience of using e-learning while the researcher takes notes for the training diary. It would then be possible to administer a post-questionnaire with closed questions as well.

During the first two days of the training, a major technical problem in the videoconferencing occurred where the women's section could not hear the men's

section at all. That problem could not be solved immediately because these were evening sessions where no technical support was available. It would be better to make sure that one of the technical support representatives is always available on site during the whole package especially if it is held 'after hours'.

As the researcher was in the role of trainer during the first week, which focused on the technical aspects that included practical application, it was not possible to respond to everyone at the same time. To ensure that everyone was following instructions, much time was wasted. There was an urgent need to have an assistant to help the trainees in their applications of the technical steps.

Participating in the online chat required java software on the computers. Many participants could not participate because they did not have that software package installed. When they informed the trainer, the installation of java software and the use of the chatting space were explained to them. Similarly, the practical use of 'Mashups' was not possible because the social media websites were blocked from the University's Internet network in students' labs where the training was held. In addition, it would have been necessary to use mobile broadband to gain access to the planned 'youtube' videos. It is recommended therefore, that all computers are checked for required software packages and that any restrictions should be removed before the actual training begins. At the time of training, The Grade Centre on Blackboard contained no real student data. This meant that lecturers could not practice manipulating data and therefore the training on this function was incomplete. Trainees' achievements would be improved if some data could be uploaded for the trainees and scheduled to be available to them at the time of the training only.

## 8.6. Recommendations

Based on the conclusions of this study, the following recommendations are offered to the administrators and training designers in Saudi universities:

- Administer an annual questionnaire at the end of each academic year to collect data on the academic staff's training needs in e-learning to help you to recognise gaps in their knowledge and offer training programmes that meet their needs and expectations throughout the following year (see sections 1.3., 2.2.4., 4.2.4.1., and 5.2.1.).
- Review the training literature to identify the best training methods and how to make your training packages even better and more successful (see section 5.2.).
- Evaluate your training packages and learn from the results to improve future packages (see sections 6.3., and 6.5.).
- Do not separate theory from practice; theoretical training alone is inadequate and cannot achieve meaningful application (see sections 2.2.4., 5.4.1., 7.2.2.1.)
- In the field of e-learning, it is very necessary to combine technical and pedagogical use of technology in any training (see sections 2.2.4., 5.2.1., and 7.2.2.1.).
- Incorporate some online learning components in any e-learning training package in order to show academic staff a live example of how they might use it with their students (see sections 2.2.4., and 5.2.2.).
- Offer rewards to encourage academic staff to use e-learning (see sections 1.9.1., 2.2.3., and 4.2.3.1.).
- Hire external experts to share their successful experiences in applying e-learning in their universities and discuss the ways such experiences can be applied in your context (see section 3.2.2.).

- Offer compulsory training packages in e-learning for all students, especially the freshmen, to make them aware of the importance of e-learning and their effective role in such a learning environment (see sections 4.2.1., 4.2.3.1., 4.2.4.1.2.1., and 7.2.1.2.).

## **8.7. Suggestions for future research**

Investigating the current use of e-learning by academic staff in Saudi universities and the factors that surround that use is vital but currently insufficient. More research is needed into how training can overcome barriers that limit the use of e-learning in Saudi universities. In addition, students' use of e-learning has not yet been adequately researched. Finally, the training was conducted in one university in Saudi Arabia. Sharing the experience with other universities will be helpful.

## **8.8. Conclusion**

The focus of this study is the development of an e-learning training package for the academic staff in King Faisal University (KFU) in Saudi Arabia. A design and evaluation model of e-learning training for academic staff in higher education has been introduced. The study was conducted in two phases. In the first phase, the survey findings confirmed the evidence from the literature that the academic staff do suffer from lack of training. The training needs of the academic staff in the Faculty of Education were elicited. These needs were used together with the most common learning theories in the field and the training literature to design a training package. In phase two, the training package was implemented and assessed. Evaluation data suggested that the academic staff responded well to the design features of the training package and that the training had some positive influence on their practice, meeting their hopes and expectations, resolving most problems and enabling them to increase their use of most e-learning tools and of online learning and blended learning.

## Appendices:

### Appendix 3.1.



#### **Participant Information Sheet (English)**

**Study title:** Developing e-learning training for university lecturers in Saudi Arabia

**Please read the information carefully before deciding to take part in this research. If you are willing to participate in the research you will be asked to sign a consent form.**

**Dear Colleague,**

My name is Ahmed Abdulhameed Al Mulhem, a PhD student in the Faculty of Education at the University of Plymouth in the United Kingdom. The aim of my research is to design a training package to meet the pedagogical and technological needs of academic staff in the Faculty of Education at King Faisal University (KFU), Saudi Arabia.

You have been randomly selected to participate, as you represent a sample of the population of the study. The study field investigation will be between ten to twelve weeks and it will include participants' interviews and questionnaire completion. Sixty-seven members of academic staff in the Faculty of Education in KFU are participating in the questionnaire. You will be asked to complete one questionnaire, which will take no more than 20 minutes. For the purpose of the interview, approximately twenty members of academic staff in the Faculty of Education in KFU will participate. Your kind participation in the interview will be around 30 to 45 minutes. All interviews will be audio-taped and transcribed.

Your participation is voluntary however and you do not have to complete the study. You can withdraw from participation in the study at any time without any consequences. Please be assured that the responses you will give in the study will be treated confidentially and anonymously. At the end of the study a summary will be provided to the lecturers involved.

The research has satisfied the University of Plymouth's ethical clearance procedures. The data from both the questionnaires and the interviews will be kept in a secure place in the University of Plymouth and will be seen only by the researcher and his supervisor. It will be stored for a period of ten years, in line with the University's policy, after which time it will be destroyed.

Finally, if you are still interested in participating in the study, please complete and sign the consent form attached and return it back to me.

If you have any enquiry, please do not hesitate to contact me at any time at:  
[ahmed.almulhem@plymouth.ac.uk](mailto:ahmed.almulhem@plymouth.ac.uk)

Thank you

## Appendix 3.2.

### Participant Information Sheet (Arabic)



#### ورقة معلومات للمشاركين

##### عنوان الدراسة:

"تصميم برنامج تدريبي عن تقنيات التعلم الإلكتروني لأعضاء هيئة التدريس في إحدى الجامعات السعودية"

Developing e-learning training for one university lecturers in Saudi "  
"Arabia

يرجى قراءة هذه المعلومات بدقة قبل اتخاذ قرار المشاركة في هذه الدراسة. إذا كنت على استعداد للمشاركة في هذا الدراسة فإنه يتطلب منك التوقيع على اقرار الموافقة.

##### زميلي العزيز،

أنا المحاضر أحمد بن عبد الحميد الملحم، المبتعث لدراسة الدكتوراة في كلية التربية بجامعة بليموث في بريطانيا. الهدف من هذه الدراسة هو تصميم برنامج تدريبي لتلبية احتياجات أعضاء هيئة التدريس للمهارات التقنية والتدريسية في كلية التربية بجامعة الملك فيصل بالأحساء.

لقد تم اختيارك عشوائياً للمشاركة، كي تمثل جزءاً من عينة مجتمع هذه الدراسة. سوف يستغرق جمع البيانات والمعلومات لهذا الدراسة ما بين 10-12 أسبوع، والتي سوف تشمل على مقابلات مع المشاركين وتوزيع استبانات عليهم. سبعة وستون عضو هيئة التدريس في كلية التربية في جامعة الملك فيصل سوف يشاركون في الاستبيان. وسوف يطلب منك تعبئة استبيان واحد فقط، والذي لن يستغرق أكثر من 20 دقيقة. وستتم مقابلة حوالي عشرين عضواً من أعضاء هيئة التدريس في كلية التربية في جامعة الملك فيصل علماً بأن كل مقابلة سوف تستغرق حوالي من 30 إلى 45 دقيقة. جميع المقابلات سوف تسجل صوتياً ليتم تحويلها إلى نص مكتوب لاحقاً.

مشاركتك في هذه الدراسة ستكون تطوعية بحيث يمكنك الانسحاب في أي وقت وبدون أية عواقب. ثقب تماماً بأنه سوف يتم التعامل مع البيانات والمعلومات في هذه الدراسة بمنتهى السرية وسوف تستخدم وفق ما تقتضيه الدراسة العلمية. وفي نهاية الدراسة سوف أقدم ملخص لنتائج البحث لأعضاء هيئة التدريس المشاركين.

وأخيراً، إذا كنت لا تزال مهتماً بالمشاركة في هذه الدراسة، يرجى ملء وتوقيع إقرار الموافقة المرفق وإعادته.

إذا كان لديك أي استفسار، لا تتردد في الاتصال بي في أي وقت على العنوان التالي :

[ahmed.almulhem@plymouth.ac.uk](mailto:ahmed.almulhem@plymouth.ac.uk)

تفضلوا بقبول فائق الاحترام،،



### Appendix 3.3.



## **Consent Form (English)**

**Study title:** Developing e-learning training for university lecturers in Saudi Arabia

Researcher name: Ahmed Al Mulhem

- Please tick all the applicable choices:

- ☐ I understood the information sheet and had the opportunity to enquire about the research.
- ☐ I understand that my participation in the research will be anonymous and my name will not be associated with my contribution.
- ☐ I understand that if I accept to be interviewed, my interview will be audio-taped and transcribed.
- ☐ I understand that I will be shown any edited versions of my participations before being processed.
- ☐ I understand that I have the right to withdraw my participation at any stage, without penalty.
- ☐ I agree to edit (entirely anonymous) pieces of my participation to be used in developing e-learning training for one university lecturers in Saudi Arabia

Signed.....Date.....

Name:.....

The researcher: Ahmed Al Mulhem

Researcher Signature: .....Date: .....

### Appendix 3.4.

## Consent Form (Arabic)



### إقرار بالموافقة على الاشتراك في البحث

#### عنوان الدراسة:

" تصميم برنامج تدريبي عن تقنيات التعليم الإلكتروني لأعضاء هيئة التدريس في احدي الجامعات السعودية "

Developing e-learning training for one university lecturers in Saudi "Arabia

اسم الباحث: أحمد بن عبد الحميد الملحم

- الرجاء وضع علامة ✓ على كل الخيارات التي تناسبك :

☐ قرأت وفهمت ورقة المعلومات وأتحت لي الفرصة للاستفسار عن البحث

☐ افهم ان مشاركتي سوف يتم التعامل معها بمنتهي السرية وان اسمي لن يذكر مع مساهماتي.

☐ افهم في حال موافقتي على اجراء المقابلة، ستكون مسجلة صوتيا وتحول الى نص مكتوب.

☐ افهم ان في حالة اجراء اى تعديل على مشاركتي سوف يتم اطلاعي عليه.

☐ افهم ان يحق لى الانسحاب في مرحلة من مراحل البحث.

☐ اوافق على اقتباس اى جزء من مشاركتي في البحث بدون الاشارة لي.

التوقيع..... التاريخ.....

الاسم.....

اسم الباحث: أحمد بن عبد الحميد الملحم

التوقيع..... التاريخ.....

### **Appendix 3.5.**

#### **Questionnaire (English)**

Dear colleague,

My name is Ahmed Abdulhameed Al Mulhem, a PhD student in the Faculty of Education at Plymouth University in United Kingdom. My study is entitled "Designing, implementing and evaluating an Educational Training Package to Develop the Technological and Pedagogical Teaching Skills of Academic Staff of Education College in King Faisal University in Al Hasa".

The focus of my research is to design a training package to meet the technological and pedagogical skills needs of the academic staff of Education College. For this purpose I need to know the following: the e-learning facilities that are available for the academic staff; current e-learning skills that the academic staff already have and how are they using e-learning with their students; factors that either help or hinder the use of e-learning by academic staff and e-learning training needs and preferences of academic staff.

To help me find out this information I would be grateful if you could complete the enclosed questionnaire, which should take you no more than 20 minutes. For each question, you may find some special instructions; please read these instructions carefully before responding to each question.

Your participation is voluntary however and you do not have to complete the questionnaire. You can withdraw from participation at any time without any consequences.

Finally, please be assured that the responses you give in the questionnaire will be treated confidentially.

Yours sincerely,

Ahmed Al Mulhem, University of Plymouth

e-mail: [ahmed.almulhem@plymouth.ac.uk](mailto:ahmed.almulhem@plymouth.ac.uk)

## E-learning Skills and Pedagogies of Academic Staff

### **Instructions for completion:**

To complete this questionnaire correctly, please read the instructions before each question.

### **Section 1: About you**

1- What is your Department? .....

2- What is your position? .....

Please tick your choices in the following questions (3~7); only one box possible:

3- How many years of teaching experience do you have?

☐ 1 ~ 5 years

☐ 6 ~ 10 years

☐ 11 ~ 15 years

☐ More than 15 years

4- What is your highest academic degree?

☐ Bachelor

☐ Master

☐ Doctorate

5- What is your Gender? ☐ Male ☐ Female

6- What is your Age?

☐ Under 25 years

☐ 26 ~ 30 years

☐ 31 ~ 35 years

☐ 36 ~ 40 years

☐ 41 ~ 45 years

☐ 46 ~ 50 years

☐ 50 ~ 55 years

☐ Over 55 years

7- What is your nationality? ☐ Saudi ☐ Non-Saudi

## Section 2: E-learning facilities

8- Please tell me what e-learning facilities are available to you at the university and whether you use them for your teaching or not? (PLEASE put a tick where appropriate).

Please note for the purpose of this questionnaire the following definitions are applied

**Infrastructure support** includes computer, computer labs, software, hardware and network.

**Administrative support** refers to the decision-makers who provide assistance to the academic staff such as, funding, guidance, oversight, and overcoming the challenges that inhibit the e-learning adoption.

**Technical support** refers to the help desk that has the responsibility of responding to the inquiries, solving the technological problems and making the required changes.

Facility	Availability		Usage	
	Yes	No	Yes	No
Infrastructure support				
Administrative support				
Technical support				
E-learning training (workshops, lecture, online course, ...)				
Other				
-				
-				
-				

### Section 3: Current Status:

9.1. Do you have skills in using the following e-learning tools?

9.2. Do you use these skills in your teaching? If **NO**, why? (PLEASE put a tick where appropriate)

E-learning tools	Have the skill?		Use it?						
	Yes	No	Yes	No, WHY?					
				Lack of time	Lack of knowledge	Lack of training	Lack of Infrastructure support	Lack of technical support	Lack of Administrative
Discussion Forum									
Email									
Videoconferencing									
Electronic whiteboard									
Learning Management System (Blackboard/WebCT)									
Virtual Class Room Synch. System (e.g. HP, IBM Lotus, Blackboard)									
Class Capturing/Recording System (e.g. echo)									
Authoring Tool and Content Management Systems									
Online Exam System									

9.3. What motivates you to use e-learning for your teaching? (Please tick all the options that apply to you.

- ☐ Using e-learning saves my time.
- ☐ E-learning improves my communication with students
- ☐ Applying e-learning improves my technological and pedagogical skills in learning.
- ☐ E-learning makes learning an active experience.
- ☐ E-learning can make teaching/learning easier.
- ☐ E-learning can improve the quality of education
- ☐ E-Learning attracts and motivates students to learn.
- ☐ E-learning improves learning achievements and learners' productivity.
- ☐ E-learning increases opportunities of collaborative work among learners.
- ☐ E-Learning brings greater flexibility.
- ☐ E-learning empowers learners.
- ☐ Other, specify.

.....

.....

.....

.....

.....

- ☐ Not applicable for me, why?

.....

.....

.....

.....

.....

10-What teaching strategies are you currently using? (PLEASE all the options that apply to you)

Teaching Strategy	Always	Often	Sometimes	Rarely	Never
Active Learning					
Collaborative learning					
Lecturing					
Learner-Centered teaching					
Blended learning					
Online learning					
Other					
-					
-					
-					

11- Does e-learning help you to develop your preferred teaching strategy?

YES/NO (please circle)

If yes, please use the space below to say how e-learning helps you	If no, please use the space below to say why you think e-learning does not help you
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....



#### Section 4: training package:

12 - If you were eligible to take part in a technological training package, which e-learning systems that are offered by the university would you like to learn more about? (PLEASE choose all the applicable)

- ☐ Learning Management System (e.g. Blackboard/WebCT )
- ☐ Virtual Classroom System (e.g. HP, IBM Lotus, Blackboard)
- ☐ Class Capturing/Recording System (e.g. echo)
- ☐ Authoring Tool and Content Management Systems
- ☐ Online Exam System
- ☐ Other (please specify)

.....  
.....  
.....

13-What would you like to learn about in such a training package? (Please tick all the applicable choices)

- ☐ Introduction of e-learning systems
- ☐ Basic e-learning technological skills
- ☐ Meaningful use of e-learning in teaching  
e.g. theory/ strategy/objective/plan/activities/assessment/interaction
- ☐ Tutor and learner roles in e-learning systems
- ☐ Other (please specify)

.....  
.....  
.....

14-If you have the opportunity to involve in an e-learning training package (Please tick only one choice)

a) -When would you prefer to receive training:

- ☐ At the beginning of the term    ☐ At the middle of the term
- ☐ At the end of the term            ☐ At the holiday on my own time

b)-How much would you prefer to spend on that training:

- ☐ 2 ~ 4 weeks                      ☐ 5 ~ 8 weeks                      ☐ 9 ~ 12 weeks

c)- how would you prefer to receive the training

- ☐ entirely online                      ☐ entirely face-to-face  
☐ blended (online and face-to-face)

d)- what would you prefer way to learn?

- ☐ teacher-led lectures              ☐ Collaborative learning  
☐ individual learning              ☐ Other (please specify) .....

15- I am looking for volunteers to take part in further stages of my study, if you are interested in either of the two study stages, please tick the appropriate box and give me your contact details. (Please tick all the applicable choices)

- ☐ I am interested in taking part in a follow-up interview about my e-learning needs.  
☐ I am interested in taking part in the planned e-learning training, once it has been developed.

Name: Department: Mobile number: E-mail:
---

**Please** return the completed questionnaire form to the Department of e-learning in Faculty of Education OR post it directly to me on the following address:

Ahmed Al Mulhem

7832

Al Hafoof Wal Mubarraz 36421 – 3524

Saudi Arabia

ahmed.almulhem@plymouth.ac.uk

### **Appendix 3.6.**

## Questionnaire (Arabic)

بسم الله الرحمن الرحيم

زَمِيلِي العزيز،

السلام عليكم ورحمة الله وبركاته...

أنا المحاضر أحمد بن عبدالحمد الملحم المبتعث لدراسة الدكتوراة في كلية التربية بجامعة بليموث في بريطانيا. بحث دراستي بعنوان "تصميم برنامج تدريبي عن تقنيات التعلم الإلكتروني لأعضاء هيئة التدريس في إحدى الجامعات السعودية".

تركز الدراسة على تصميم برنامج تدريبي لتلبية احتياجات أعضاء هيئة التدريس فيما يتعلق بالمهارات التقنية والتدريسية في كلية التربية. ولهذا الغرض فأنا بحاجة لمعرفة ما يلي: الخدمات الخاصة بالتعلم الإلكتروني المتوفرة لأعضاء هيئة التدريس في الجامعة، المهارات التقنية والتدريسية المتقنة في الوقت الحالي ومدى توظيفها لتدريس الطلاب بها، العوامل التي تساعد أو تعوق استخدام التعلم الإلكتروني، وماهي تفضيلات أعضاء هيئة التدريس للبرنامج التدريب هذا.

لمساعدتي في معرفة هذه المعلومات، سأكون ممتناً لو تفضلت بإكمال هذه الاستبانة التي لن تستغرق أكثر من **20 دقيقة**. بعض الأسئلة تحتوي علي تعليمات خاصة، أرجو قراءة هذه التعليمات بعناية قبل الإجابة على أي سؤال. مشاركتك في تعبئة هذه الاستبانة ستكون تطوعية بحيث يمكنك الانسحاب في أي وقت وبدون أية عواقب.

وفي الختام، ثقي تماماً بأنه سوف يتم التعامل مع البيانات والمعلومات في هذا الاستبيان **بمئة السرية** وسوف تستخدم وفق ما تقتضيه الدراسة العلمية.

**ملاحظة :** هذه الدراسة تعتمد التعاريف التالية

- **التعلم الإلكتروني:** هو التعلم باستخدام اليات الاتصال الحديثة من حاسب وشبكاته ووسائطه المتعددة من صوت وصورة ورسومات، واليات بحث، ومكتبات الكترونية وكذلك بوابات الانترنت سواء كان عن بعد او في الفصل الدراسي (الموسمي و المبارك، 2005).
- **التعلم النشط:** هو التعلم الذي يعتمد على إيجابية المتعلم في الموقف التعليمي، حيث يتم التعلم من خلال العمل والبحث والتجريب، واعتماد المتعلم على ذاته في الحصول على المعلومات واكتساب المهارات.
- **التعلم التعاوني:** هو أسلوب تعلم يتم فيه تقسيم التلاميذ إلى مجموعات صغيرة غير متجانسة (تضم مستويات معرفية مختلفة )، يتراوح عدد أفراد كل مجموعة ما بين 4 – 6 أفراد ، ويتعاون تلاميذ المجموعة الواحدة في تحقيق هدف أو أهداف مشتركة
- **التعلم المدمج:** إحدى صيغ التعليم أو التعلم التي يندمج فيها التعلم الإلكتروني مع التعلم الصفّي التقليدي في إطار واحد ، حيث توظف أدوات التعلم الإلكتروني سواء المعتمدة على الكمبيوتر أو على الشبكة في الدروس ، مثل معامل الكمبيوتر والصفوف الذكية ويلتقي المعلم مع الطالب وجها لوجه معظم الأحيان (زيثون، 2005).

تفضلوا بقبول فائق الاحترام،،،

أحمد الملحم

البريد الإلكتروني : [ahmed.almulhem@plymouth.ac.uk](mailto:ahmed.almulhem@plymouth.ac.uk)

**الاستبانة: المهارات التقنية والتدريسية للتعليم الإلكتروني لدى أعضاء هيئة التدريس**

التعليمات:

لإكمال هذه الاستبانة بشكل صحيح، الرجاء قراءة التعليمات الخاصة لكل سؤال.

**المحور الأول: المعلومات الشخصية**

1 - ما هو قسمك؟ .....

2 - ما هي وظيفتك الأكاديمية؟ .....

يرجى وضع علامة (√) في اختيارك على الأسئلة التالية (3 - 7)؛ اختيار واحد فقط ممكن:

3 - كم عدد سنوات خبرتك في التدريس الجامعي؟

☐ 1 - 5 سنوات ☐ 6 - 10 سنة

☐ 11 - 15 سنة ☐ أكثر من 15 سنة

4 - ما هو مؤهلك الأكاديمي؟

☐ بكالوريوس ☐ ماجستير ☐ دكتورة

5 - هل أنت؟

☐ ذكر ☐ أنثى

6 - كم عرك؟

☐ أقل من 25 سنة ☐ 26 - 30 سنة

☐ 31 - 35 سنة ☐ 36 - 40 سنة

☐ 41 - 45 سنة ☐ 46 - 50 سنة

☐ 50 - 55 سنة ☐ أكثر من 55 عاما

7 - هل أنت؟

☐ سعودي ☐ غير سعودي

## المحور الثاني: خدمات التعلم الإلكتروني

8- ماهي خدمات التعلم الإلكتروني المتاحة لك في الجامعة، هل تستخدمها أم لا؟ (يرجى وضع علامة ✓ في كل ما يناسبك).

لغرض هذه الدراسة يرجى ملاحظة ما يأتي:

**دعم البنية التحتية** ويشمل الكمبيوتر، معامل الكمبيوتر، الأجهزة ، البرمجيات وشبكات الاتصال.

**الدعم الإداري** ويشير إلى صناع القرار الذين يقدمون المساعدة لأعضاء هيئة التدريس مثل: التمويل ، الرقابة والتوجيه، والتغلب على التحديات التي تحول دون اعتماد التعلم الإلكتروني.

**الدعم الفني** ويشير إلى مراكز المساعدة التي تتحمل المسؤولية للرد على الاستفسارات ، حل المشاكل التقنية وإجراء التغييرات المطلوبة.

الخدمات		التوفر		الاستخدام	
		نعم	لا	نعم	لا
دعم البنية التحتية					
الدعم الإداري					
الدعم الفني					
برامج التدريب للتعلم الإلكتروني(ورش عمل، محاضرات، دورات الكترونية)					
اخرى:					
-					
-					
-					

### المحور الثالث: الوضع الراهن

9.1. هل تجيد مهارات استخدام تقنيات التعلم الإلكتروني المدرجة في الجدول التالي؟

9.2. هل تستخدم هذه المهارات في التدريس؟ إذا كانت إجابتك "لا"، اذكر السبب؟ (يرجى وضع علامة √ لاختيار كل

ما يناسبك)

هل تستخدم هذه المهارة في تدريسيك؟										هل تستخدم هذه المهارة ؟			نقنيات التعلم الإلكتروني
لا أستخدام هذه المهارة بسبب (أختار كل ما يناسبك)										نعم	لا	نعم	
لا أحتاجها	عدم توفر الدعم الإداري	قلة الدعم التقني	عدم فهم التقنية	التقنية البنية التحتية	الافتقار للمعرفة	عدم توفر الخبرات	عدم توفر الوقت	عدم توفر المكان	عدم توفر المال				
													منتديات النقاش Discussion Forum
													البريد الإلكتروني e-mail
													المؤتمرات بواسطة الفيديو Videoconferencing
													السيورة البيضاء الإلكترونية Electronic white board
													نظام إدارة التعلم Learning Management System (e.g. Blackboard/WebCT)
													الفصول الافتراضية Virtual Classrooms (e.g. Blackboard, HP, IBM Lotus)
													نظام تسجيل المحاضرات Class Capturing/Recording System (e.g. echo)
													نظام التأليف وإدارة المحتوى الإلكتروني Authoring Tool and Content Managemet Systems
													نظام الاختبارات الإلكترونية Online Exam System

9.3. ما الذي يحفزك لاستخدام التعلم الإلكتروني في التدريس؟ (يرجى وضع علامة ✓ على كل الخيارات التي تنطبق عليك).

- ☐ استخدام التعلم الإلكتروني يوفر وقتي.
- ☐ التعلم الإلكتروني يحسّن التواصل بيني وبين الطلاب.
- ☐ تطبيق التعلم الإلكتروني يحسّن مهاراتي التقنية والتدريسية.
- ☐ التعلم الإلكتروني يجعل تجربة التعلم عملية نشطة.
- ☐ التعلم الإلكتروني يجعل التعليم والتعلم أسهل.
- ☐ التعلم الإلكتروني يمكن أن يحسّن نوعية التعليم.
- ☐ التعلم الإلكتروني يجعل عملية التعلم مثيرة، وجاذبة ومقنعة.
- ☐ التعلم الإلكتروني يحسّن التحصيل العلمي وإنتاجية المتعلمين.
- ☐ التعلم الإلكتروني يزيد من فرص العمل التعاوني بين المتعلمين.
- ☐ التعلم الإلكتروني يوفر قدر أكبر من المرونة.
- ☐ التعلم الإلكتروني يساعدني على تمكين المتعلمين (Empower students).
- ☐ أخرى، حدد:

.....  
.....  
.....

☐ لا استخدم التعلم الإلكتروني ، لماذا؟

.....  
.....  
.....

10 – مامدى استخدامك لاستراتيجيات التدريس التالية؟ (يرجى وضع علامة ✓ على كل الخيارات التي تنطبق عليك)

الاستراتيجية التدريسية	3	4	5	6	7
التعلم النشط Active Learning					
التعلم التعاوني Collaborative Learning					
المحاضرات Lecturing					
التعلم المتمركز على الطالب Learner-Centered Teaching					
التعلم المدمج Blended Learning					
التعلم عبر الإنترنت Online Learning					
أخرى:					
-					
-					
-					

11 – هل تقنيات التعلم الإلكتروني تساعدك على تطوير استراتيجية التعليم المفضلة لديك؟

إذا كانت الإجابة بنعم، وضح كيف يقوم التعلم الإلكتروني بذلك؟	إذا كانت الإجابة لا، وضح لماذا لا يقوم التعلم الإلكتروني بذلك؟
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....



#### المحور الرابع: برنامج التدريب

12 - إذا اتبحت لك الفرصة للمشاركة في برنامج تدريبي عن تقنيات التعلم الإلكتروني، فما هي نظم التعلم الإلكتروني التي توفرها الجامعة وترغب في معرفة المزيد عنها ؟ (يرجى وضع علامة ✓ على كل الخيارات التي تناسبك)

- ☐ نظام إدارة التعلم
- ☐ [Learning Management System (Blackboard/WebCT)]
- ☐ الصفوف الافتراضية
- ☐ [Virtual Classrooms (e.g. HP, IBM Lotus, Blackboard)]
- ☐ نظام تسجيل المحاضرات
- ☐ [Class Capturing/Recording System (e.g. echo)]
- ☐ نظام التأليف وإدارة المحتوى الإلكتروني
- ☐ [Authoring Tool and Content Management Systems]
- ☐ نظام الاختبارات الإلكترونية
- ☐ [Online Exam System]
- ☐ أخرى (يرجى التحديد):

.....

.....

.....

13 - ما الذي تريد معرفة المزيد عنه في هذا البرنامج التدريبي؟

- ☐ مقدمة عن أنظمة التعلم الإلكتروني
- ☐ المهارات التقنية الأساسية للتعلم الإلكتروني
- ☐ كيفية استخدام التعلم الإلكتروني في التدريس بفعالية
- ☐ دور المعلم والمتعلم في أنظمة التعلم الإلكتروني
- ☐ أخرى (يرجى التحديد):

.....

.....

14 - إذا كان لديك فرصة للإشتراك في برنامج تدريبي عن التعلم الإلكتروني (يرجى وضع علامة ✓ على اختيار واحد فقط).

- ☐ أ) ما هو أفضل وقت للتدريب:
- ☐ في بداية الفصل الدراسي
- ☐ في منتصف الفصل الدراسي
- ☐ في آخر الفصل الدراسي
- ☐ في الإجازة الصيفية

ب) ما هي المدة الزمنية التي ترغب في أن تتدرب خلالها:

☐ 12-9 اسبوع

☐ 8-5 اسابيع

☐ 4-2 اسابيع

ج) ما هي الطريقة التي تفضلها لتلقي التدريب:

☐ كلاهما معا

☐ وجها لوجه

☐ الكترونيا عن طريق الانترنت

د) كيف تفضل أن تتعلم؟

☐ بشكل تعاوني (Collaborative learning) ☐ بطريقة المحاضرات (teacher-led lectures)

☐ بشكل فردي (individual learning) ☐ أخرى (يرجى التحديد) .....

15- أبحث عن متطوعين للمشاركة في مراحل أخرى من دراستي ، وإذا كنت مهتما في أي مرحلة من مراحل الدراسة التالية يرجى وضع علامة ✓ على كل الخيارات التي تناسبك مع تزويدي بوسائل الاتصال بك.

☐ أنا مهتم بالمشاركة في المقابلات حول تلبية احتياجات أعضاء هيئة التدريس للمهارات التقنية والتدريسية

☐ أنا مهتم بالمشاركة في البرنامج التدريبي

الاسم:
القسم:
الحوال:
البريد الالكتروني:

يرجى إعادة نموذج الاستبيان بعد اكماله إلى قسم تقنيات التعليم بكلية التربية أو إرساله مباشرة إلى العنوان التالي :

أحمد بن عبد الحميد الملحم

7832

3524 – 36421 الهفوف والمبرز

المملكة العربية السعودية

### **Appendix 3.7.**

#### **Interview (English)**

1. Introduce yourself (Department, position, teaching experience, highest academic degree, age, nationality)?
2. Tell me about the e-learning facilities and systems you currently use in your teaching:
  - a. What are they?
  - b. Why do you use them?
  - c. How do you use them? E.g. How do they complement or fit your teaching strategies?
  - d. What is your experience of using them? E.g. good, bad, enjoyable, rewarding, frustrating
3. Are there any e-learning facilities that you know about that you would like to use with your students but are unable to:
  - a. What are they
  - b. Why would you like to use them
  - c. Why are you unable to use them: E.g. not available in the university, don't know how to use them; too difficult to use; too expensive
4. How important do you think it is to use e-learning with your students?
  - a. What are the advantages of using e-learning with your students?
  - b. What are the disadvantages of using e-learning with your students?
5. Thinking about your future use of e-learning with your students, would you like to improve or increase your use of e-learning?
  - a. Explain answer, if yes why? If no why?
  - b. If you would like to improve or increase your use of e-learning, what things do you think you will need to help you do this? Or, what factors are currently preventing you from doing this or slowing you down in your efforts?
6. Thinking about the current skills you have in using e-learning with students
  - a. What are the e-learning skills do you have?
  - b. How do you exploit these skills in your teaching?
  - c. What skills do you think you are lacking (if any); how important is it to you to develop these skills?
7. Thinking about any previous e-learning training you have received
  - a. What was it? Type of training, how was it delivered, how long did it last?
  - b. How was it? Did you enjoy it, learn a lot from it, or was it unhelpful or a waste of time?
  - c. How successful was the training in helping you improve your practice?

8. Thinking about any future e-learning training you might receive
  - a. What would an ideal or effective e-learning training package be for you? E.g. Design, length, content, delivery
  - b. In order for an e-learning training package to be relevant and meaningful to you and your practice, what content or activities would you wish there to be?
9. Thinking about the influence of e-learning training on your practice
  - a. In what ways would you expect or hope your practice to change as a result of taking part in an e-learning training package

## Appendix 3.8.

### Interview (Arabic)

#### أسئلة المقابلة

1. قدم نفسك (القسم، الوظيفة، خبرتك في التدريس، مؤهلك الأكاديمي، السن، الجنسية)؟
2. أخبرني عن خدمات ونظم التعلم الإلكتروني التي تستخدمها حالياً في تدريسك:
  - أ. ما هي؟
  - ب. لماذا تستخدمها؟
  - ج. كيف تستخدمها؟ على سبيل المثال كيف تتناسب أو تزيد من فعالية استراتيجيات تدريسك؟
  - د. ما هي تجربتك مع استخدامها؟ على سبيل المثال جوده، مستعة، سيئة، مجزية، محبطة
3. هل هناك أية خدمات للتعلم الإلكتروني تعرف عنها و ترغب في استخدامها مع طلابك ولكنك غير قادر على ذلك :
  - أ. ما هي؟
  - ب. لماذا ترغب في استخدامها
  - ج. لماذا أنت غير قادر على استخدامها : على سبيل المثال غير متوفرة في الجامعة، لا أعرف كيفية استخدامها، من الصعب جدا استخدامها؛ مكلفة للغاية
- 4- في رأيك ما مدى أهمية استخدام التعلم الإلكتروني في تدريسك مع طلابك:
  - أ. ما هي مزايا استخدام التعلم الإلكتروني مع طلابك؟
  - ب. ما هي مساوئ استخدام التعلم الإلكتروني مع طلابك؟
- 5- هل ترغب في تحسين أو زيادة استخدامك للتعلم الإلكتروني؟
  - أ. إذا كان الجواب نعم أو لا، لماذا؟
  - ب. إذا كنت ترغب في تحسين أو زيادة استخدامك للتعلم الإلكتروني، ما هي الأمور التي تعتقد أنك سوف تحتاجها لتساعدك على القيام بذلك؟ أو ما هي العوامل التي تمنعك حالياً من القيام بذلك أو تبطئ جهودك؟
- 6- بالنظر إلى مهاراتك الحالية في استخدام التعلم الإلكتروني مع الطلاب
  - أ. ما هي مهارات التعلم الإلكتروني التي تجيدها بالفعل؟
  - ب. كيف يمكن استغلال هذه المهارات في تدريسك؟
  - ج. ما هي المهارات التي تعتقد أنها تنقصك (إن وجدت)، ما مدى أهمية اتقانك لها؟

7. لو سلطنا الضوء على أي تجربة تدريبية سابقة لك في مجال التعلم الإلكتروني:

أ. عن ماذا كان؟ (نوع التدريب/ وكيف تلقّيته/كم كانت مدته)

ب. كيف كانت تجربتك؟ هل كانت ممتعة، تعلمت الكثير منها، أو كانت غير مفيدة أو مضيعة للوقت؟

ج. ما مدى نجاح هذا التدريب في مساعدتك على تحسين ممارستك التدريسية؟

8. لو افترضنا أنك ستتنضم لبرنامج تدريبي عن التعلم الإلكتروني:

أ. ما هي مواصفات التدريب الأمثل أو الفعال بالنسبة لك؟ على سبيل المثال التصميم/المدة/المحتوى/ التوصيل.

ب. من أجل تصميم برنامج تدريبي مجد ومفيد عن التعلم الإلكتروني ووثيق الصلة بممارستك التدريسية، في رأيك ما هو

المحتوى المناسب أو الأنشطة المناسبة التي يجب أن يشتمل أو يركز عليها البرنامج؟

9. بالتفكير في أثر التدريب على تدريسيك:

في رأيك، كيف سيظهر أو كيف تتمنى أن تتغير ممارستك التدريسية نتيجةً للاحتاق بمثل هذا البرنامج التدريبي؟

### Appendix 3.9.

#### Approval from Schools of Education at KFU

KINGDOM OF SAUDI ARABIA  
Ministry of Higher Education  
KING FAISAL UNIVERSITY



المملكة العربية السعودية  
وزارة التعليم العالي  
جامعة الملك فيصل  
الرمز (٠٣٧)

المرفقات:

التاريخ: ١٤٣١/١١/٩ م

الرقم: ١٤٦٤/١٠/١/٩

#### سعادة المبتعث الأستاذ أحمد بن عبد الحميد المحم

الحترم

بشأن: الموافقة على جمع البيانات وتطبيق البرنامج في مجال تقنيات التعليم بجامعة بليموث ببريطانيا

السلام عليكم ورحمة الله وبركاته، أما بعد،،،

أشير إلى طلبكم الموافقة على (جمع بيانات وتطبيق برنامج تدريبي تقني لأعضاء هيئة التدريس بكلية التربية بما يتناسب مع احتياجاتهم وتطلعاتهم) (المرفق).

وبناء عليه نفيدكم بأننا نبدي استعدادنا للتعاون معكم وتسهيل مهام البحثية المتعلقة بالموضوع أعلاه، بما لا يتعارض مع الإجراءات التنظيمية وسير العمل بالكلية.

تقبلوا خالص تحياتي،،،



عميد كلية التربية

د. ماهر بن محمد العرفج

### **Appendix 5.1.**

#### **Pre-questionnaire of E-learning Training Package (English)**

- What are the e-learning tools that you use when teaching?
- What are the problems that you usually face when using e-learning tools?
- What are the e-learning pedagogies that you use with e-learning tools?
- How do you integrate e-learning tools and pedagogies?
- What do you expect from joining this training package?



## Appendix 5.2.

### **Pre-questionnaire of E-learning Training Package (Arabic)**

بسم الله الرحمن الرحيم

#### الاستبيان القبلي:

زميلي العزيز/ زميلتي العزيزة الرجاء الإجابة على الأسئلة التالية:

- ماهي أدوات التعلم الإلكتروني التي تستعملها في التدريس؟
- ماهي المعوقات أو المشاكل التي تواجهها عادة عند استخدام أدوات التعلم الإلكتروني؟
- ماهي استراتيجيات (طرائق) تدريس التعلم الإلكتروني التي تستخدمها؟
- كيف تدمج أدوات التعلم الإلكتروني بمنهجيات (استراتيجيات/طرائق) تدريس التعلم الإلكتروني؟
- ماذا تتوقع من انضمامك لهذا البرنامج التدريبي؟

### Appendix 5.3.

#### End of day Individual reflection (Feedback) - Arabic

بسم الله الرحمن الرحيم

التغذية الراجعة

- ماهو أكثر شيء استفدت منه أو استمتعت به مما تعلمناه اليوم؟ اشرحه بإيجاز

- لماذا؟

- كيف تعتقد أن ما تعلمناه سوف يفيدك في التدريس بأدوات التعلم الإلكتروني؟

- ماهو أقل شيء استفدت منه أو استمتعت به مما تعلمناه اليوم؟

- لماذا؟

#### **Appendix 5.4.**

##### **End of day Individual reflection (Feedback)- English**

<b>What was the most interesting (useful) thing you have learnt today- describe briefly?</b>
<b>Why was it interesting (useful)?</b>
<b>What was the least interesting or useful thing about the day/activities?</b>
<b>Why was it uninteresting or not useful?</b>
<b>How do you think the training today will inform your future e-learning practice?</b>

## **Appendix 5.5.**

### **Day 6: A Focus on E-learning from a University Perspective**

#### **Exercise One:**

##### **Part one: (Individual reflection)**

1. Individually think about your answers to the following questions:
  - Are you currently using e-learning of any kind in your teaching?
  - If no, what are the reasons for this?
  - If yes, how are you using e-learning in your teaching? Examples, brief description
  - What did you learn from the Blackboard course last week that you will use or apply in your future teaching?

##### **Part two: (Discussion and work groups)**

2. In a group of 3-4:
  - Share your answers, and discuss similarities and differences
  - Try to come up with a group definition of effective e-learning.
    - E-learning is effective when .....
    - Effective e-learning is....

### **Appendix 5.6.**

#### **Day 6: A Focus on E-learning from a University Perspective**

##### **Exercise Two: (Discussion and work groups)**

What are the internal and external drivers at King Faisal University?

	<b>Motivations to Co-ordinate and Support E-Learning</b>		<b>No motivation to change towards e- learning</b>	
<b>Internal</b>				
<b>External</b>				

## **Appendix 5.7.**

### **Day 7: A focus on e-learning from a student perspective?**

#### **Exercise three: (Discussion and work groups)**

What do you know about your students?

In small groups of 3-4 discuss the following questions:

1. What do you know about your students:

- Ownership and usage of technologies (at home and at university)
- ICT and information skills (technical skills)
- Digital literacies (academic skills)
- Attitudes towards use of e-learning
- Expectations of e-learning at KFU
- Current experiences of e-learning at KFU

2. What could you do to find out more about your students e-learning access, skills, use, experience and attitudes?

## **Appendix 5.8.**

### **Day 7: A focus on e-learning from a student perspective?**

#### **Exercise Four: (Discussion and work groups)**

#### **Responding to Learners**

In a UK Practitioner Guide, called “Responding to Learners”- a number of recommendations are given to inform practice. See separate handout: source Source: <http://www.jisc.ac.uk/media/documents/publications/lxp2.pdf>

For each of the recommendations below (taken from the Guide) discuss whether it would be appropriate or possible for you to do the same here at KFU. Can you think of anything else you could do to encourage students use of technologies?

#### **Establishing and Meeting expectations:**

- 1) Provide clear explanations about the technologies that learners are expected to use, both in terms of the support available and the educational benefits.
- 2) Ensure essential course information and learning resources are available via the VLE.
- 3) Offer “tasters” (introductory sessions) of new activities that learners can try online.
- 4) Learn what other colleagues are doing and share practice- so that a consistency in use of e-learning might develop.

#### **To support the development of students ICT skills and digital literacies:**

- 1) Factor in time for students to develop new ICT skills.
- 2) Design tasks that require students to access online information and process it in a critical way.
- 3) Design learning activities in which digital technologies are integral.
- 4) Model expected behaviours by using digital tools yourself as part of your teaching and support.

## **Appendix 5.9.**

### **Day 8: A focus on e-learning from the lecturers' perspective?**

#### **Exercise Five: (Individual Reflection)**

- What do you think or feel about the use of e-learning in :
  - KFU generally
  - the teaching of your discipline
- How are you currently using e-learning with your students?
- What factors are influencing your current use/non use of e-learning?
- Share your answers with at least one other person



### Appendix 5.10.

#### **Day 8: A focus on e-learning from the lecturers' perspective?**

##### **Exercise Six: (Discussion and work groups)**

Please respond to the following statements:

SA= Strongly Agree

A= Agree

N= Neither Agree or Disagree

D= Disagree

SD= Strongly Disagree

	SA	A	N	D	SD
Using e-learning would make me a better instructor					
Using e-learning will require unnecessary changes in the curriculum					
I will never have a need to use e-learning in my teaching					
I believe that all faculty members should know how to use e-learning					
Anything that a computer can be used for I can do just as well another way					
My inability to manage the integration of e-learning into the curriculum discourages me					
I am not sure how to integrate e-learning into my curriculum					
It is important that KFU technology plans include the use of e-learning					
I believe that e-learning integration into the curriculum enriches the teaching and learning environment					

Adapted from: Al- Sarranni (2010) Concerns And Professional Development Needs Of Science Faculty At Taibah University In Adopting Blended Learning From:  
<http://krex.k-state.edu/dspace/bitstream/2097/3887/1/NauafAl-Sarrani2010.pdf>

### **Appendix 5.11.**

#### **Day 8: A focus on e-learning from the lecturers' perspective?**

##### **Exercise Seven: (Discussion and work groups)**

- What are the factors that are positively influencing KFU lecturers use of e-learning?
  - How can you make the most of these factors
- What are the barriers to KFU lecturers use of e-learning
  - How can these barriers be overcome

## **Appendix 5.12.**

### **Day 9: A focus on the pedagogy of e-learning?**

#### **Exercise Eight: (Individual Reflection and Group Feedback)**

- How do I currently use e-learning with my students?
- What are my reasons for using e-learning the way I do?
- Share your answers with at least one other person

### **Appendix 5.13.**

#### **Day 9: A focus on the pedagogy of e-learning?**

##### **Exercise Nine: (Discussion and work groups)**

Thinking about the example that you have just shown, discuss that example with a partner, then decide:

- what pedagogical approach is being used in each example?
- Be prepared to share your answer with the whole group

## **Appendix 5.14.**

### **Day 9: A focus on the pedagogy of e-learning?**

#### **Exercise Ten: (Discussion and work groups)**

- In groups discuss:
- What kind of learning do I want my students to experience?
- How can e-learning help me to achieve the kind of learning that I want my students to experience?

### **Appendix 5.15.**

## Day 10: A focus on the planning and design of e-learning?

## E-Learning Review Worksheet

This activity encourages you to critically evaluate the contribution of e-learning to your current or future teaching practice.

### Exercise Eleven: (Discussion and work groups)

## Part 1: Describing how e-learning is currently used

Think of an example where e-learning is being at KFU (by you or someone else)	
Context:	<p>What kind of student? Undergraduate (Yr 1,2,3) or Postgraduate?</p> <p>What kind of course were they studying?</p>
What is/was the e-learning tool? e.g. Blackboard, video-conference	

<p><b>How was the e-learning being used with students?</b>  <b>What was the rationale (reason) for this use?</b></p>	
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## Exercise Eleven: (Discussion and work groups)

### Part 2: Thinking about your future e-learning use

Think of a course that you teach	
<b>Context:</b>	<p>What kind of course?</p> <p>What kind of student? Undergraduate (Yr 1,2,3) or Postgraduate?</p> <p>What prior knowledge and experience do the students have?</p>
<p><b>What are the aims or learning outcomes of this course?</b></p> <p><b>Which of these outcomes reflect an associative, constructivist or situative approach to learning?</b></p>	
<p><b>Can any of these learning outcomes be achieved using e-learning, if so how?</b></p>	



### Appendix 6.1.

### Post-questionnaire of E-learning Training Package (English)

- [illegible]

- Have you achieved what you had expected from joining the training package? Explain?
- How do you think this training package could be improved?

**Appendix 6.2.**

**End of the day diary**

<b>What things went well in the day?</b>
<b>What didn't go so well?</b>
<b>How I felt during the day?</b>
<b>How did the participants respond?</b>

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## **Publication**

### **The 5<sup>th</sup> Saudi International Conference, Coventry, UK**

**The design, implementation and evaluation of an e-learning training package for academic staff in  
the College of Education at King Faisal University, Saudi Arabia**

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#### **Abstract**

This paper describes the first stage of PhD research work in the field of e-learning. The research focuses on the e-learning systems that are available in one university in Saudi Arabia, namely the King Faisal University (KFU). The study is interested in designing a training programme for the academic staff of the College of Education at the university, where the researcher works as a lecturer, to fill the gap in staff knowledge and skills in using e-learning systems. The study intends to use constructivism and empowerment theories to inform the training package. The paper outlines the study's statement of the problem, focus, aims, questions, significance and design.

**Key words:** e-learning / Saudi Arabia / Academic Staff / Training / Professional Development.

#### **Introduction**

The effectiveness of using e-learning has been much researched. Many positive consequences have been cited in research studies. For example, e-learning can improve teaching and learning by increasing flexibility, reducing time consumption, increasing learner motivation and better knowledge transfer (Coenen, 2002). Leung (2004) adds that better attitudes, deeper understanding and positive results in students' learning can be achieved by technological support in teaching. Lai (2005) believes that

e-learning encourages collaboration between students, which in turn helps to attenuate the difficulties that they may face. According to Allen and Seaman (2006), e-learning may increase learners' intellectual and technological knowledge and skills.

The use of e-learning in higher education still comes up against many barriers, which either completely or partially limit its potential to positively influence teaching and learning. Researchers have outlined a number of these barriers, such as staff attitudes (Liaw *et al.*, 2007; Jamlan, 2004; Panda and Mishra, 2007), lack of time (Haywood *et al.*, 2000; Newton, 2003; Alexander, 2001; Albalwai, 2007; Vrasidas, 2004), lack of infrastructure (Selim, 2007; Haywood *et al.*, 2000; Vrasidas, 2004; Al-Jarf, 2007), lack of technical and administrative support (Alsadoon, 2009; Alshehri, 2005; Al-Jarf, 2007; Soong *et al.*, 2007) and lack of training (Pajo and Wallace, 2001; Panda and Mishra, 2007; Alharbi, 2002; Newton, 2003; Vrasidas, 2004). Panda and Mishra (2007) find that there is an extensive relationship between the use of computers and e-mail and academic staff's positive attitudes towards e-learning. Newton (2003) agrees with Vrasidas (2004), who believes that academic staff face difficulty in allocating time to develop, evaluate and update learning resources. A survey carried out by Haywood *et al.* (2000) to investigate the views of senior managers, academic staff and experts on learning technology in Scottish Higher Education indicates some of the significant barriers to using technology by academic staff, namely lack of time, infrastructure, software and training. The findings of Alharbi (2002) at Imam University point to the lack of technical and administrative support as key barriers to preventing the implementation of online courses at university. Lack of training in using e-learning is cited as one of the most profound obstacles to the integration of technology in teaching. For example, lack of training in e-learning was ranked as the second top barrier to successful implementation of e-learning by faculty members in the Indira Gandhi National Open University (Panda and Mishra, 2007). A study by Pajo and Wallace (2001) found that lack of training was also reported within the top three of barriers that effect e-learning adoption. Since the present study is interested in staff academic training in e-learning skills and pedagogy in one Saudi university, the factor of lack of effective training will be highlighted specifically within a Saudi Arabian context.

### **Statement of the problem**

Many researchers have paid attention to the adoption of e-learning in Saudi universities and the factors that influence that adoption. They find that lack of knowledge and lack of skills training are

among the most significant obstacles to play a key role in inhibiting the use of e-learning in universities in Saudi Arabia (Al-Khabra, 2003; Al-Far, 2004; Al-Fulih, 2002; Al-Muhaisin, 2000; Al-Sharhan, 2002; Al-Jarf, 2007; Alshehri, 2005). For instance, in her investigation of e-integration challenges for rectors and deans in higher educational institutions in Saudi Arabia, Al-Jarf (2007) indicates that interviews with university vice-presidents, college deans, vice deans and department heads show that using online courses is negatively influenced by the lack of training for academic staff in online instruction. Al-Erieni's (1999) study on the attitudes of academic staff in King Saud University towards the development and implementation of telecommunication based distance learning also asserts that, in order to encourage the implementation of distance learning, faculty members need to learn the new skills required for that new type of education. Alghonaim (2005) explored administrators' and instructors' attitudes towards the implementation of online instruction in Buraidah College of Technology (Saudi Arabia). He investigated the barriers that prevent implementation of online instruction, and indicated that one of the two major barriers is a lack of helpful training in online teaching. Alshehri (2005) finds that lack of knowledge and skills is a main obstacle in limiting the implementation of online courses at the Institute of Public Administration in Saudi Arabia.

These studies clearly show that there is a gap in the training of academic staff in Saudi universities as regards achieving the most effective use of e-learning. There is, however, a lack of information regarding what constitutes an effective or successful e-learning training programme in Saudi Arabia universities, or the process by which an e-learning training programme might be designed. The present research addresses this gap at the KFU where the researcher works. The study will involve designing an e-learning training programme. Building on Aldakel's (2003) argument that teachers' current needs, time and preferences should be taken into account when designing a training programme. The design of the training at KFU will be informed by the current skills and future needs of academic staff. This study addresses the gap in training for academic staff at the KFU (and other Saudi universities). Informed by the training needs and preferences of academic staff at KFU, it designs, implements and evaluates a training package that focuses on both e-learning technological skills and pedagogy.

### **Research Focus**

The focus of my research is to design a training programme to meet the technological and

pedagogical needs of academic staff in the Faculty of Education in KFU, Saudi Arabia.

### **Research aims**

The study entitled "Developing e-learning training for university lecturers in one Saudi Arabian University", will be conducted for the following purposes:

1. To identify the technological and pedagogical training needs of the academic staff in the faculty of education in KFU, Saudi Arabia.
2. To design and implement a proposed training programme based on the training needs of academic staff using modern technology.
3. To evaluate the influence of the proposed programme on the e-learning practices of academic staff.

### **Main question**

What are the e-learning training needs of the academic staff of the faculty of education in KFU and how can these needs be met by a training package?

### **Sub-questions**

- **What are the e-learning training needs of academic staff in the faculty of education in KFU?**
  - a) What e-learning facilities are available for academic staff in the Faculty of Education at the University?
  - b) What current e-learning skills do the academic staff already possess and how are they using e-learning with their students? What factors either help or hinder the use of e-learning by academic staff?
  - c) What are the e-learning training needs and preferences of academic staff?
- **How can the e-learning training needs of the academic staff of the Faculty of Education in KFU be effectively addressed?**
  - a) How might the e-learning training needs and preferences of academic staff inform the key design features and characteristics of an e-learning training package?
  - b) How might e-learning theories and models inform the key design features and characteristics of an e-learning training package?

### **Significance of the Study**

Universities in Saudi Arabia face many challenges that delay the complete integration of e-learning. One of the most common and most important challenges for academic staff is lack of e-learning training. The current study will design and implement a training programme based on the perceived technological and pedagogical needs of academic staff. Once the programme is completed, its success

will be evaluated and potential implications for other Saudi universities will be considered. The research may help those responsible for implementing and integrating e-learning in Saudi Universities, by informing their staff development strategies.

### **Study Design**

This research employs a qualitative design to develop e-learning training in one Saudi university (KFU) in two stages. Firstly, some qualitative data on the e-learning facilities available in KFU, as well as the current status of e-learning skills, usage and perceived needs, were gathered by questionnaire and semi-structured interviews with academic staff in KFU. Sixty-seven members of the academic staff of the Faculty of Education in KFU participated in the questionnaire. In the questionnaire, the researcher tried to determine the e-learning facilities available to academic staff in KFU and to investigate current usage of these facilities. The questionnaire also included questions about the academic staff's current usage of e-learning tools and the pedagogies that they employ for the purpose. There were some further questions about the factors that positively/negatively influence the academic staff's usage of e-learning. Academic staff were questioned about their training preferences (content / delivery / length of time). Twenty members of academic staff were interviewed for the purpose. In the interviews, the researcher explored the e-learning facilities available in KFU and other facilities that the academic staff are unable to use for any reason; the questions examined their beliefs about e-learning, the barriers and enablers of using e-learning and staff current e-learning skills and needs. The interview also included questions about any previous e-learning training experience features and impact, future training preferences and participants' own aims of being involved in such a training programme. Based on the data collected at this first stage, a training package can be developed, implemented and evaluated in a follow-up second stage.

The study uses the constructivist and empowerment approaches to inform the training package. Piaget (1972), Vygotsky (1978) and Bruner (1990) defined constructivism theory as the active process of constructing new knowledge based on learners' previous experience. Constructivism is an epistemological method. It explains the nature of knowledge that is acquired through interaction between learners' prior information, beliefs about ideas, events and activities, without any imitation or repetition (Kroll & LaBoskey, 1996; Cannella & Reiff, 1994; Richardson, 1997). I believe in the constructivist

theory because it is seen as a good fit for e-learning in many ways. Constructivism guarantees learning amongst all learners (Harman & Koohang, 2005; Hung & Nichani, 2001) and “promotes active learning through knowledge construction” (Gagne *et al.*, 1992).

According to Gray (1997), empowering students is the centre of a constructivist teacher’s philosophy. Constructivist teachers always try to equip their students with the skills and abilities to be independent learners. They also encourage their students to ask questions about what they learn, which is a significant phase of learning. Therefore, students acquire more control over their thinking. Furthermore, Gray (1997) believes that “power is a key element in a constructivist classroom”. In addition, in the constructivist environment, students may negotiate themes and design their curriculum; according to Cook-Sather (2002), many constructivists argue that listening to students’ voice regarding their learning experiences can contribute to improving the teachers’ practice. Cook-Sather (2002:5) adds that by “embracing this belief, many constructivists attend to student learning processes and feedback on their learning experiences with the goal of changing pedagogical practice so that it better facilitates that learning”.

Constructivism has re-shaped e-learning by changing the roles of e-teachers and e-learners. Constructivist pedagogy is student-centred rather than tutor-centred. In the e-learning environment, the Internet forces students to become active learners and allows them many choices and decisions relating to what, where, how to study and with whom (Paurelle, 2003). In addition, as the learners build a knowledge base on their experience in the constructivist environment, e-learning allows context-based and work-based learning. Paurelle (2003) adds that, since learning is perceived as a social experience by constructivism, technology helps students to communicate easily, regardless of the barriers of time and place. Similarly, e-learning, as stated earlier, enables students to choose the time, content, place and way that they prefer to learn. As the e-learning environment encourages student-centred pedagogy, it is assumed that learners control their own learning. Moreover, empowerment allows learners to control to what degree they will use technology in their learning (Saye, 1997). As a result, it could be concluded that both constructivism and empowerment are appropriate theories to use to underpin the development of e-learning.

The study aims to develop the academic staff’s e-teaching skills by allowing more opportunities for training. First of all, participants’ voice about their needs and problems with technology will be facilitated through interviews and questionnaires. Then, the training package will be designed according



to their needs and choices. Participants will decide how, when and where they will receive the training package, which will be available online (Blackboard), so they will have a range of control over the training process. The programme will be learner-centred, and I will play the role of facilitator, so the staff will learn independently. All participants will have basic computer skills, so they can construct new information based on their prior knowledge. Once the programme is completed, participants will be given some powers to share the evaluation process. Conducting the study in this way seems to construct learning and empower learners.

## **Conclusion**

The study is in the analysis stage. The questionnaires and the interviews are analysed using SPSS software and Nvivo software, respectively. The training package's content, duration, time and delivery method will be identified as a result of this analysis. The study is interested in providing training for academic staff, which is based on their needs and preferences, but also informed by professional development theory and models.

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E-mail: [info@aaace.org](mailto:info@aaace.org)  
[www.aaace.org](http://www.aaace.org)

Dear Ahmed Al Mulhem:

Thank you for your submission to Society for Information Technology and Teacher Education International Conference 2014 to be held in Jacksonville, Florida, United States; March 17-21, 2014.

We are pleased to inform you that the Program Committee of SITE 2014, after rigorous peer review, has decided to ACCEPT your submission for presentation.

Please note that the reviewers may have recommended and, therefore, accepted your proposal under a different presentation category.

The following submission was accepted:

**Common Barriers to E-learning Implementation in Saudi Higher Education Sector: A Review of Literature [41302]**

Accepted as: **Brief Paper**  
(Submitted as: Brief Paper)  
Maximum Proceedings pages: 6

You may access your submission, make author changes, and upload your proceedings paper at the following url:

<http://conf.aaace.org/site/2014/submission/>

In order to access your previous submissions, you must log in using the same e-mail address used to submit your proposals, which is **ahmed\_almulhem@hotmail.com**.

By : Register & Confirm at Least One Author for the submissions you plan to present.

You must confirm you will give your presentation by having at least one author register and pay the registration fee by this date.

To enable you to begin making early plans for your trip and registration, see the following information at this URL:

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- Registration Rates
- Hotel & travel information
- Proceedings Preparation Guidelines
- Presenter Lounge offering Presenter Guidelines for:

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## **Important Presenter Dates:**

### **By February 26, 2014: Upload Proceedings File**

Guidelines: <http://www.aace.org/conf/siteprocguide.htm>

All proceedings files MUST be received by this date. The last file you upload will be used as your published proceedings paper. You may check the latest file by:

1. Going to the main submission menu: <http://conf.aace.org/site/2014/submission/>
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### **By February 26, 2014: Review Presentation Information for Final Program**

Please review and change, if necessary the following information for publication in the Final Program:

- Presentation title
- Abstract (in abstract text box)\*
- Author names and organizations
- Author order
- Contact author

\* The Abstract in the text box displayed on your Paper Information webpage will be published 'as is' in the Conference Abstract book. Please be sure you have pasted your Abstract into this text box.

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### **By February 26, 2014: Register & Confirm at Least One Author**

Advance Program/Registration (online & printable) <http://www.aace.org/conf/site/>

You must confirm you will give your presentation by having at least one author register by this date and choose the papers you will present from the list on the registration form.

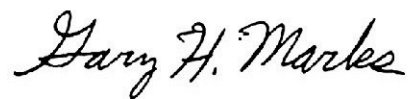
If you do not see a listing of the papers you have submitted, make sure that you are logged in with this e-mail address; otherwise, your papers will not be displayed: [ahmed\\_almulhem@hotmail.com](mailto:ahmed_almulhem@hotmail.com)

Other authors may register later. If we do not receive your confirmation via the registration form by this date, your presentation cannot be included in the Final Program or the Proceedings.

welcoming you to this exciting event in Jacksonville, Florida, United States, March 17-21, 2014.

For the Program Chairs,

Sincerely,

A handwritten signature in black ink that reads "Gary H. Marks". The signature is written in a cursive style with a large, stylized 'G' and 'M'.

Gary Marks, Ph.D.

SITE/AACE Executive Director